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Thesis
Written Problems in Arithmetic Text Books

1808 - 1930

by

May Gertrude Anderson

B. S. Boston University 1931

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First Reader: Guy M. Wilson, Professor of Education
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In any study of written problems in text books, we must consider that education is always being reformed, yet one cannot but marvel at the intellectual power which our great-grandparents were expected to display in arithmetic.

It is with a full appreciation of my indebtedness to Dr. Guy M. Wilson that I acknowledge that without his supervision and helpful criticism and kindly patience my work could not have been undertaken or completed.

A Study of Written Problems in Six Text Books from 1808 - 1930.

by

Mae Gertrude Anderson

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Written Problems in Arithmetic Text Books 1808 - 1930

Introduction

After examining a number of arithmetic text books used in the past one hundred years, the following texts were chosen for detail study; Pike's Complete Arithmetick published in 1808; Colburn's Sequel 1828; Greenleaf's National Arithmetic Designed for Common Schools and Academies 1868; Hamilton's Complete Arithmetic, 1908; and the New Day Arithmetics, Elementary and Intermediate, 1930.

It was necessary to decide on a clear basis of separating problems from examples so I define a problem as a concrete end descriptive statement of numerical facts which the pupil must interpret while the example is purely an arithmetical process, e. g., multiplying one number by another.

The method used in this investigation was to analyze the problems in the six text books with regard to subject matter and their different situations. The latter includes buying, selling, both buying and selling, finding amount of money, e. g., taxes, time, measure, finding quantities and judgment situations.

The analysis of the text books includes the number and problems as classified under topics by the author him-

self, the number of problems solved in the book, the number with answers given and the per cent of the problems left for the pupils to solve, and the analysis of the amount of space given to illustrations, tables, and the amount of blank space.

Tables have been made showing the largest number of places in the figures of each problems as stated but not solved; the frequency of decimal places according to their number in the problems as stated but not solved; the frequency of all the fractions occurring in the problems as stated but not solved; and the number of problems distributed on the basis of the processes involved in each one, that is, the four fundamental processes with various combinations and special cases of those processes. There are comparison tables of the subject matter, decimals, whole numbers, fractions, and the texts in relation to the number of pages of illustrations, of tables, of examples and problems.

This investigation has given definite conclusive evidence of a change in the problems of the text books in the past hundred years.

CHAPTER I

Analysis of Problems In The New and Complete System of Arithmetic

By Nicolas Pike

Third Edition Revised

By Nathaniel Lord

Published by Thomas and Andrews

Boston - April 1808

Table I

Topics or Processes under which Problems and Examples are Classified by Pike.

	Topic	Number of Examples	Number of Problems	Number in Final Set of Miscellaneous Problems
1	Addition	26	11	5
2	Subtraction	23	13	
3	Multiplication	45(175)*	10	22
4	Division	34(30)*	17	16
5	Greatest Common Measure	3		
6	Least Common Multiple	4		
7	Vulgar Fractions	142	20	14
8	Decimal Fractions	56	10	
9	Reduction to Different Units of Compound Number	69(88)*	46	
10	Reduction of Different Kinds of Money to Other Kinds	79		
11	Single Rule of Three		56	43
12	Double Rule of Three		22	
13	Fellowship		25	
14	Practice	181	16	10
15	Square Root	10		
16	Application and Use of Square Root		15	7
17	Cube Root	9		
18	Application and Use of Cube Root		10	
19	Arithmetic Progression		36	
20	Geometrical Progression		31	
21	Simple Interest		56	1
22	Discount		17	
23	Barter		12	
24	Profit and Loss		16	
25	Equation of payments		7	
26	Insurance		11	
27	Compound Interest		50	
28	Circulating Decimals		20	
29	Alligation		19	4
30	Single Position		14	
31	Double Position		9	
32	Permutations and Combinations		16	
33	Miscellaneous Problems		122	
34	Measuration of Superficies and Solids		31	
	Totals	681	738	122

* The examples marked (*) are ones also listed as examples under different headings (i.e. Practice and Reduction, etc.).

Notes continued from Table I

2. Under Table I Topic 3, Miscellaneous Problems, is analyzed in Column 3 according to different topics or processes.
3. Parts of Pike's text dealing with Chronological Problems, pages 367-379; Logarithms, pages 380-382; Geometry, pages 382-386; Trigonometry, pages 386-396; Algebra, pages 439-470; and Conic Sections, pages 471-478 are not included in this table.

Table II

Problems Listed in Relation to
Subject Matter and Situation
in Pike's Complete Arithmetick, 1808

Subject Matter	Situation	Index*
Alphabet	Number changes can be made	320:3
Amount	Difference when loss and sum are known	211:2
Apples	Given away	49:35
Area	Side of square equal to given circle	182:1
Area	A is given, find side of a square	183:2
Area	Side of square equal in area to triangle	182:2
Atmosphere	Pressure of atmosphere on square foot and on surface of man's body	353:120
Acres	In fields	92:6
Age	Date given man born, find when he will be 77	47:2
Age	Find age, year given	47:4

*Index means oage number and number of examples, i.e., 320:3 means page 320, example 3.

Subject Matter	Situation	Index
Age	Common difference of ages of 10 sons, youngest and oldest known	201:2
Age	Age of youngest, oldest and sum of all known	210:2
Ages	Determine ages of 3 men	315:7
Ale	Gallons to pints	58:2
Ball	Space it moves through when first number and ratio are known	221:10
Ball	Height ball to be raised to lose half its weight	337:55
Ball	Velocity iron ball begins to fall if raised 3,000 miles above earth	340:67
Ball	Height ball must be raised above earth to begin to descend with given velocity	340:68
Ball	Velocity with which ball strikes when galling given space and given time	341:70
Ball	Height from which ball falls if strikes with velocity of fifty-six feet per second	341:72
Balloon	Distance from earth balloon would be suspended between earth and moon	338:56
Balloon	Diameter of balloon which will take up given weight	351:113
Balloon	Diameter of balloon given what can it raise	352:114

Subject Matter	Situation	Index
Bankstock	Cost	125:8
Barley-corns	Reach one place to another	56:1
Barley-corns	Go round globe	56:2
Beer	Puncheons to butts	58:3
	Hogsheads reduce to pints	58:4
Beer	Number gallons difference when 20 bbl. beer put into 10 wine pipes	335:40
Bells	Number changes can be rung on 8 bells of Christ Church	319:1
Bells	Number changes can be rung with 4 or 8 bells	320:1
Board	Find breadth	134:9
Body	Find velocity of body of different weight impelled by same force as another	337:51
Body	Weight of body at surface of earth weight at 2,000 mile above given	337:52
Body	Find weight of body 2,000 miles above earth	337:53
Body	Find distance above earth for body to weigh certain amount	337:54
Body	Find space a body falls in 5 seconds	339:60
Bowl	Cost of it	131:6
Box	Length of side of box holding 50 bushels	437:23
Braces	Venetian change to American yards	140:4
Brandy	Pints reduce to pipes	58:3
Brandy	Amount in cash	92:5
Brandy	Barter brandy for linen	255:2
Brandy	Selling price to gain a given percent	260:8

Subject Matter	Situation	Index
Brandy	Specific gravity of best French brandy	250:10
Bullet	Time bullet pass from earth to sun and sound from sun to Saturn	346:103
Bullet	Time bullet falls through given space	340:65
Bullet	Time musket ball falling from top of steeple	340:66
Bullet	Mean velocity of musket ball dropped from top of steeple	340:69
Bullet	Height bullet goes from time it took to reach ground	339:63
Bullet	Time bullet falling by velocity per second	340:64
Buttons	Cost	120:23
Bushel	Diameter and height of statule bushel	437:24
Brandy	Specific gravity of best French brandy	350:110
Building	Height of building from time takes bullet to fall from top to the ground	339:61
Brandy	Will gallon flask of brandy sink or swim when thrown in sea and how much heavier or lighter is it than same bulk of sea water	351:112
Bushel	Diameter of height given find side of a cubic box containing bushel	191:7
Cable	Circumference of one for an anchor of a number of cwt.	191:10
Cable	Weight of an anchor for 15" cable	191:9
Candles	Gain percent after buying and selling, allowing time for payment	258:7
Cannonball	Find velocity cannonball must have to demolish walk of Jerusalem at same rate as Battering Ram of Uespasiam	337:50
Cannonball	Height from which body must fall to acquire velocity of cannonball	339:59
Cattle	Find number oxen, cows, calves	318:8
Cattle	Number each purchased with given sum	122:38

Subject Matter	Situation	Index
Cistern	Three cocks all run together find time to be emptied	131:6
Cistern	Number pipes to empty it in given time	134:12
Clock	Number strokes the hammer will strike in a week	202:2
Cloth	Number of yards	92:3
Cloth	Amount of it Rule of 3	114:5-8
Cloth	Amount bought	119:17
Cloth	Number of yards bought English money	124
Cloth	Single Rule of 3	118:12
Cloth	Cost of	120:30
Cloth	Cost	125:7
Cloth	Measure reducing	55:1-7
Cloth	Find price	219:2
Chaise	Price of chaise horse and harness	316:10
Cheese	Amount money given when bartering cheese for broadcloth	255:1
Chestnuts	For each when divided between two	49:23
Chocolate	Selling Price, Gain given find Cost	260:3
Circle	Diameter given, to make larger circles	183:10
Circle	Find diameter of circle equal to an ellipsis	184:11
Circle	Difference between area of a circle and its greatest inscribed square?	435:10
Circle	Reduce ratio of circumference of circle to its diameter	327:2
Circle	Reduce ratio of area of circle to its circumscribing square	327:3
Cistern	All cocks open time to empty	122:41
Cloth	Amount cloth in exchange for steel	255:2

Subject Matter	Situation	Index
Cloth	Bought in time credit and sold. Find percent gain or loss	258:8
Cloth	Imported from France, find gain or loss after selling	258:10
Cloth	Percent gained or lost from buying and selling	257:4
Cloth	Lost a percent find selling price	259:3
Cloth	Selling price gain known, find cost	260:1-2
Cloth	Gain or loss selling at certain price	261:1-2
Coat	Yards of coating needed	134:18
Coral	Chaldrons to pecks	58:1
Cocks	Has cock wh. runs into cistern 3 cocks open time filled if all run together	131:7
Cocks	Time three can fill vessel	315:8
Cocks	Time takes to fill cistern three cocks open two filling, one emptying	331:23
Cocoa	Cost 1 pound cocoa	95:2
Comet	Ratio of velocity of comet moving in parabola to that of a planet moving in circular orb	326:1
Corn	Bushel to pints	59:2
Corn	Cost of corn per bushel	125:3
Cotton	Selling price per cwt. to lose a given percent	259:6
Cotton	Net weight in bags	175:2
Currants	Amounts to mix to sell at certain price	312:1
Cyder	Reduce quarts to tons	58:4
Cow	Cost of a cow	94:5
Cow	Pasturing per week	119:16
Damask	Number of yards of lining	317:1
Days	Since Christian Era	37:5

Subject Matter	Situation	Index
Debt	Sum received	119:20
Debt	One's share of it	48:14
Debt	Equated time for paying it terms being changed	263:1-3
Debt	Equated time for payment of whole amount due at different times	262:1-4
Debt	Each state's share of Federal Debt	48:26
Debt	Annuity to discharge American Continental debt in 25 years	332:26
Debt	Amount of it by arithmetic progression	204:2
Debt	Number creditors when amount of debt and greatest debt known	210:2
Debt	Amount discharged when first ratio is known	220:4
Debt	Amount least creditor received when greatest and next one is known	209:2
Degrees	Number degrees 2 places are apart	93:25
Dice	Number changes in throwing 4 dice	324:2
Dice	Probability of throwing ace at one throw with other dice	324:3
Discount	Find discount on English and Federal money due 2 years hence	250:1 251:2
Discount	Present worth payable at future time English money	250:2-4
Discount	Present worth on note Federal money	251:7-2
Discount	Federal money for a year	251:1
Discount	Present worth of sum English money due hence	253:2-4
Distance	B overtakes A, also time B travels	123:42
Distance	Between 2 places of observation of barometer and thermometer	354:122

Subject Matter	Situation	Index
Distance	Time of meeting and distance traveled by men around a circular island	333:31
Distance	Thunder is away from time between flash and report	346:101
Drams	In pounds, ounces, drams to ounces	54:3
Drams	In pounds, number of drams	54:4
Earth	Turns in one minute	121:37
Earth	Time for one revolution	123:43
Earth	Time for 1 degree	123:44
Earth	Find comparative magnitude between each of 7 other planets and earth	346:105
Earth	Find mean motion of earth around sun per minute	346:107
Earth	Find proportion between quantity of matter in the earth and in the moon	346:106
Earth	Time for 1 degree	123:45
Estate	Amount of estate divided between 3 sons	316:12
Estate	Value of Estate divided between sons	329:10-11
Expenses	Per month	46:25
Farm	Yearly rental	120:24
Field	It feeds number of cows in so many days, how long will it feed a certain number	134:14
Field	Number times two men travel around circular field before one over-takes the other	330:17
Figs	Cost of buying them	96:1
Figures	Place 4-1's to add up to 12	330:16
Fish	Bought at Newburyport sold in Philadelphia find gain per cent	260:7
Fish	Find length	318:6
Flax	Cost of a pound flax	95:1

Subject Matter	Situation	Index
Floor	Difference between floor 20 feet square and 20 others each 10 feet square	434:2
Fruit	Number trees in orchard	329:5
Garden	Area of circular garden diameter given	435:7
Glass	Magnitude of glass weighing a number of ounces	352:116
Globe	Axis of globe whose solidity equals area of its surface	436:14
Gold	Value	127:2,1,2
Gold	Value in Spanish milled dollars	128:2-1
Gold	Value to shillings	129:3
Gold	Values to Federal money	129:4
Gold	Carats mix of 3 kinds of gold	309:4
Gold	Amount alloy to make mixture of number of carats fine	309:5
Ground	Men stand on	182:4-5
Ground	For trees	183:6
Gold	Amount to mix to get a carat compound	311:4
Gold	Equal to D.C. required the weight	130:2
Gold	Length of wire can be made from ingot of gold of certain dimensions	438:29
Goods	Number bales of goods can be stored in ship's hold	437:20
Grain	In silver bowl when weight given	53:1
Grains	In ingots of gold	53:2
Grains	To pounds	53:4
Grains	For pounds and ounces	55:1,2,3
Grains	Gold value	127:1

Subject Matter	Situation	Index
Grain	Value of bushel of mixture of 4 kinds of grain at different prices	309:2
Grain	Amount to mix to get mixture of certain value	312:2
Grain	Amount to mix to sell at certain price	311:3
Grindstone	How much each of 4 men grind off a grindstone to have equal share	435:12
Ground	Ground largest Egyptian pyramids covers	434:1
Gold	Amount to mix to get mixture of 22 carots	312:3
Gold	Amount of 4 kinds to mix to get certain amount 18 carats	313:2
Gold	Amount to be mixed to mixture of 20 carats	314:2
Hay	Amount hay due to pay loan	437:19
Hound	Time and distance hound runs before overtaking hare	332:28
Horses	Value of each of 2 determined from value of horse and carriage of given value	318:5
Horses	Pay of each of horses for drawing load of Salt from Newburyport to Boston	334:39
Inches	From one place to another	56:3
Income	Known amount spent per day	119:13
Insurance	Amount	20:28
Insurance	Find Premium	125:9
Insurance	Premium in English money	265:1
Insurance	Premium in Federal money	266:2
Insurance	Amount of Policy English money	266:1
Insurance	Amount of premium	267:1-3
Insurance	Find sum to be covered by Federal money	268:2
Interest	Federal money at 6 per cent	233:3-5

Subject Matter	Situation	Index
Interest	Amount due on sum English money	239:1 240:3-4
Interest	Find principal due 7 years	240:1
Interest	Due English money	240:2
Interest	Sum, English money	240:6
Interest	Find principal amount and rate given	241:2-4
Iron	Price per pound to gain a given per cent	259:5
Iron	Length of cubic feet of iron hammered into bar $\frac{1}{4}$ inch square	436:13
Joist	Breadth of joist twice as large as one given but $1\frac{1}{2}$ inch thicker	436:15
Land	Measure roods and perches	57:1
Land	Measure - solid inches	57:1
Land	Measure - poles	57:2
Land	Measure - acres	57:4
Labor	Number days worked and number idle	318:4
Lead	Weight needed to roof a house	352:115
Legacy	Amount of son's and of whole estate	48:13
Legacy	Amount left son	329:12
Legacy	Amount at first	330:13
Length	To make foot square	134:15
Length	To make acre	134:16
Letters	Number words can be made with 6 letters of alphabet	320:2
Letters	Number variations can be made of letters in a word	321:1
Letters	Number combinations can be made of 7 out of 12 letters	322:1

Subject Matter	Situation	Index
Letters	Number combinations can be made of 6 out of 24 letters	322:2
Light	Time light passes from sun to Georgium Sidus	346:104
Lighthouse	Height of lighthouse from certain known distances	335:45
Linen	Bought number yards in arithmetic progression cost and average per yard	202:4
Linen	Amount linen in exchange for sugar	255:3
Linen	Irish linen in ready money in barter for broadcloth	256:3
Linen	Linen for buttons in exchange	256:4
Linen Cloth	Linen cloth for ribband	256:5
Locks	Number locks may be unlocked by "Key of 6 several wards	322:5
Man	Travels daily find daily increase in number of miles	201:3
Man	Distance travelled together stones	202:3
Man	Days to travel and distance	203:2
Man	Miles he rode first day when sum and difference known	211:2 212:2
Man	Distance travelled first ratio and last number known	222:2 223:2
Man	Distance he rode, first ratio and last number known	223:2
Mace	Exchange mace for broadcloth	255:4
Marbles	Marble lost	49:34
Marble	Specific gravity of certain weight of marble	352:117
Men	To finish wall in given time	134:11
Men	Needed to build edifice	138:7

Subject Matter	Situation	Index
Men	Amount spent in number weeks	138:5
Men	Number years 10 men could sit every day in different positions	320:2
Men	Number men in army	335:42
Meteor	Time meteor would move around earth	346:99
Minutes	Minutes from one date to another	57:4
Minutes	Minutes from 1 date to another	57:6
Men	Number ways 5 men may be chosen from 5 companies	324:1
Men	To finish work	134:13
Oats	Barter oats for exchange barley	255:2
Money	Cost goods, freight, etc.	47:12
Money	Amount of debt after borrowing	47:10
Money	Amount of estate	48:13
Money	Difference between 2 sums of English money	48:15
Money	Amount of business at end of year	48:16
Money	Sum of money to be divided	48:17
Money	Worth of business end of 15 years	48:24
Money	Reducing English money	53:1
Money	Each received	53:2
Money	Cost of 1 yard cloth (English and Federal money)	94:1
Money	Cost of 1 ell cloth	94:2
Money	Cost of corn	94:6
Money	Cost 1 pound at different prices	95:2-4
Money	Cost of figs	96:1
Money	Cost of 1 yard baize	96:3

Subject Matter	Situation	Index
Money	To each person	97:1-3
Money	To each person	98:4
Money	Cost of cloth per ell	119:18
Money	Amount creditor gets	119:19,20
Money	Commission amount	120:29
Money	Gain	120:32
Money	Gain or loss on shipping goods	121:34
Money	Amount in purse	122:39
Money	Change Irish to Massachusetts currency	123:46
Money	Change Massachusetts to Maryland currency	123:47
Money	Change Massachusetts to New York currency	123:48
Money	Change Massachusetts to Georgia currency	123:49
Money	Change Massachusetts to Philadelphia currency	123:50
Money	Change Irish to Massachusetts currency	123:51
Money	Change Massachusetts to Irish currency	123:52
Money	Silver to Massachusetts currency	123:53
Money	Holland to Massachusetts currency	125:10
Money	Gain in silver after exchange	125:11
Money	Ell English	125:1
Money	Cost of yards	125:2
Money	Cost of corn per bushel	125:3
Money	Cost of number yards	130:1
Money	Cost of 1/2 yard	131:3
Money	Cost number yards	131:8
Money	Find interest gained in 9 months	137:1
Money	Find time when principal and interest given	137:2

Subject Matter	Situation	Index
Money	Find interest principal will earn certain interest	138:3
Money	Find interest rate principal and interest given	138:4
Money	Change French crowns to pence	139:1
Money	Loss from a joint stock - loss of each partner	143:3
Money	Loss after freighting a ship with boards loss of each	143:5
Money	Loss after ship is lost having been insured	143:7
Money	Amount creditor gets after bankruptcy is declared	143:9
Money	Amount each gains after being in a joint company	143:11
Money	Amount each receives from a joint company	144:12-14
Money	Amount each of 4 men spent	144:15
Money	Gain	146:2-6
Money	Gain	148:1-4
Money	Total amount bill of goods	174:1
Money	Cost of a horse and of 3 horses by geometrical progression	218:2
Money	Amount given to a daughter when first number ratio are known	219:3
Money	Cost of a house when number of doors are known and price per door given, i.e. first ratio find amount geometrical progression	220:6
Money	Amount due a man when first number and ratio are known	220:7
Money	Amount interest a farthing at compound interest from Christian Era to 1784	220:8
Money	Sum of 5 legacies	222:3

Subject Matter	Situation	Index
Money	Find interest	232:1,2
Money	Amount due on Federal money on sum at interest	233:6,7
Money	Federal money at 6% interest	233:8
Money	Amount on back stock Federal money	234:14
Money	Commission English money and Federal money a given per cent	234:9,10
Money	Brokerage English money at given per cent	234:11
Money	Brokerage on Federal money at given per cent	234:12
Money	Interest English money at 6%	235:15
Money	Interest due on bill paid in installments	235:16
Money	Interest on account due given date	236:17,18
Money	Due on note	238:18
Money	Amount due on sums at 6%	238:19
Money	Amount due on note 11 partial payments - simple interest	238:20
Money	Commission due sum English money	240:5
Money	Amount commission on 2 cargoes	240:7
Money	To discharge debt due hence	250:5
Money	Gain after discounting a note Federal money	250:6
Money	Discount sum English money	252:1
Money	Discount Federal money	252:2-3
Money	Present worth of sum English and Federal money	253-1,2,3,4
Money	Amount gain per cent on English money	258:6
Money	Find amount after given number of years compound interest	271:1 273:2,4 275:1,2 276:2

Subject Matter	Situation	Index
Money	Find interest after number of years - compound interest	276:1
Money	Present worth of money due hence discount at certain rate. Compound interest	278:1
Money	Find principal to amount to a given number compound interest	278:2
Money	Present worth and discount due hence at given per cent discount by compound interest	279:1,2,3
Money	Amount of annuity payable yearly at Compound interest	281:1
Money	Amount at compound interest	281:1
Money	Sum amount at compound interest	282:2,3,4,5
Money	Sum amount at compound interest given	282:1 283:2
Money	Present worth of an annuity	285:1 286:2
Money	Amount of annuity sum will buy	287:1 288:2
Money	Present worth of annuity at compound interest	289:1
Money	Present worth of lease	290:2
Money	Present worth of lease	291:3
Money	Best of 4 offers for lease of profits for 7 years	291:4
Money	Amount of yearly rent present worth of lease given	293:2
Money	Amount of annuity	292:1
Money	Worth of freehold estate rent given	294:1
Money	Selling price of estate yearly rent given	294:2
Money	Yearly rent of freehold estate	294:1,2
Money	Rate of interest allowed buyer of estate	295:1,2
Money	Present value of estate	296:1 297:2

Subject Matter	Situation	Index
Money	Yearly rent of estate	297:1,2
Money	Find sum of money lent at simple interest	315:2
Money	Share of gain each of 3 in fellowship	315:3
Money	Share of spendings of each of 4 men	315:4
Money	Sum to be divided between 5 men	315:5
Money	Sum before spending half and one-third	315:6
Money	Find sum when sum of certain parts given	315:9
Money	Amount in a purse when sum of certain parts given	316:11
Money	Income and yearly spendings of each of 2 men	317:2
Money	Amount each of 2 men "laid out in trade" one gaining and other losing	317:3
Money	Amount King gave General by process of permutations	322:3
Money	Time man's estate will last	330:14
Money	Amount remitted after commission deducted	330:15
Money	Amount of lady's fortune to be solved by her lover from puzzle data given him	333:34
Money	Amount of each of 2 men adventured at sea	333:36
Money	Share of 2 men	333:37
Money	Number guineas each of 3 had	334:38
Money	Number of guineas A has more than B by sum of difference of squares	336:46
Money	Find number of guineas A and B have by sum of squares of the 2 numbers and sum of numbers	336:47
Money	Find number guineas A and B have by sum of square and difference of 2 numbers	336:48
Number	Greater number and sum of the 2	47:1
Number	Added to make new number	47:3

Subject Matter	Situation	Index
Number	Sum of numbers	47:11
Number	When product is given	46:18
Number	Difference between two numbers	48:20
Number	Difference when sum is given, Find product and square of difference	48:21
Number	Difference when sum is given, find product and quotient	48:22
Number	Of men marched ahead	48:27
Number	Deducted	49:28
Number	Find number multiplied	49:29
Number	Dividend - divisor and remainder given	49:30
Number	When quotient, product remainder given	49:31
Number	Sheep left	49:32
Number	Marbles lost	49:34
Number	Apples each has	49:35
Number	Added to make given number	49:36
Numbers	Pennyweights and grains	53:2
Number	Cubic feet in timber	111:4
Number	Square feet in board	111:3
Number	Cubic feet of wood	111:5
Number	Square feet in windows	111:6
Number	Into parts of certain ratio	142:1
Number	Sum of first 1,000 numbers in natural order	202:5
Numbers	Find whether dec. equal to fraction finite or infinite and if infinite how many places repetend consist of	306:1,2,3
Number	Addition of circulating decimal	307:1,2

Subject Matter	Situation	Index
Numbers	Multiplication of circulating decimal	308:1,2
Number	Find number of which 7/8 exceeds 4/5 by 6	316:13
Number	Find number (puzzle type)	318:7
Numbers	Mean proportional between 2 numbers	182:1 190:1,2
Number	Number different numbers can be made of certain figures	321:2
Number	Reduce vulgar fraction to equivalent decimal	325:1,2
Numbers	Part of 9 d. 2/5 of 7 d is	328:1
Numbers	Number from which 3/7 is taken the remainder will be 1/5	328:2
Numbers	Number to which if 3/7 of 12/5 of 120/313 be added, will equal	328:3
Numbers	Number of which 19 3/18 is 5/7	328:4
Number	Difference between second and fourth number in proportion	332:30
Numbers	Find two numbers having sum of the squares and squares of their half sum	336:49
Oats	Barter oats for barley	255:2
Payment	Common difference of payments first and last given i.e. arithmetic progression	204:2
Payment	Number of payments to discharge a debt	205:2
Payment	Difference when sum and first is known by arithmetic progression	208:2
Payment	First and last payment when buying farm paid in arithmetic progression i.e., sum and difference known	213:2
Payment	Find ratio when a debt was paid in geometrical progression - amount, first, and last number known	225:2
Pendulum	Length of pendulum vibrating seconds	342:80

Subject Matter	Situation	Index
Pendulum	Length of several pendulums vibrating different times	343:81
Pendulum	Difference in length of pendulum vibrating different times	343:82
Pendulum	Times a pendulum of 9.8 inches vibrates in a second	343:83
Pillar	Diameter of column of same length which measures ten times as much as another	437:27
Place	Place of meeting of 2 men traveling between Newburyport and Providence	333:32
Plank	Distance from edge to cut off just a square yard from given plank	434:4
Platform	Cost of platform around a circular well	435:9
Pole	Distance from bottom pole should be cut to fall certain distance	438:30
Pounds	Troy in pound avoirdupois	54:5
Pounds	At Boston equal to pounds at Amsterdam	139:3
Potash	Net weight of number of barrels	175:3
Pounds	American to Flemish	139:4
Pounds	Number at Newberry at Dantzick	140:5
Pounds	Number at Boston equal to Antwerp	140:2
Powder	Number at Boston - Paris	140:3
Powder	Power of number	177:2,3
Powder	Selling price to lose a certain per cent after buying	259:2
Precidice	Height of precidice from vibrations of a pendulum	343:84
Product	of 2 numbers their sum and product	48:23
Product	of 2 numbers and quotient of greater by less	48:22
Principal	Amount B put in partnership	143:4

Subject Matter	Situation	Index
Prize	Value of prize	48:19
Pyramid	Height of each of parts of a square pyramid	438:28
Quarts	Quarts to a bushel	59:3
Rammer	Force with which rammer strikes piles of bridge	341:74
Rammer	Height from which rammer fell	341:75
Rate	Per cent of interest allowed when buying estate	296:1,2
Ribbands	Ribbands in exchange for broadcloth	255:1
Rings	Made of gold	53:4
Rum	Cost of a gallon of rum	93:4
Rum	Amount water to be added to rum to reduce to standard proof	351:111
Rye	Cost of 1 bushel rye	96:2
Salary	Per week - yearly given	119:14
Salary	Amount to continue 20 years at 6% compound interest	288:2
Salary	Per year - weekly given	119:15
Scholars	Determine number in school	315:1
Screw	Distance between threads of a certain screw	346:97
Screw	Length of lever with certain screw	346:98
Serge	Find percent gain in buying and selling serge	256:1-2
Serge	Find selling price of 1 yard to gain a certain per cent	259:1
Sheep	Sheep left	49:32
Sheep	Cost of sheep	94:3
Sheep	Cost of sheep bought by process of permutations	322:4

Subject Matter	Situation	Index
Share	Gained certain amount	142:2
Share	In proportion to legacies left	143:6
Share	In joint company amount gain	143:10
Ship	Value whole	120:26
Ship	Value apart	120:25
Ship	Value part	125:4
Ship	Value whole	125:6
Ships	Distance apart one sailing north and one west	184:15
Ship	Find dimensions of ship of a given number of tons of same mold and shape	191:8
Ship	Distance frigate sails to overtake it	221:9
Ship	Find amount each of two men paid for ship and part of vessel third man owned	333:35
Ship	Distance ship sailed and latitude come to	438:31
Ship	Value of ship	329:6
Ship	Cost of ship and cargo	329:7
Ships	Distance apart at end of each hour	329:8
Ship	Find cost of outfitting ship, each of 3 men's share of cost and of gain	318:9
Silver Globe	Value of globe of different diameter	190:4
Silver	Value of cube of silver	190:5
Silver	Determine length of shoar supporting weak place in wall	335:43
Silver	True weight of bar of silver	329:9
Square	Army to be placed in rank and file into a square	182:3
Spices	Amount to mix to sell certain price	310:1
Silver	Spoons - weight	92:

Subject Matter	Situation	Index
Shalloon	Number of yards of shalloon	134:17
Solid	Difference between solid half foot and half a foot solid	436:18
Sound	Time sound of cannon travels 10 miles	346:100
Steeple	Find height of steeple from shadow, height of staff and its shadow given	121:35
Steel	Price per pound to gain a given per cent	259:4
Stone	Find weight of 100 pounds stone at surface of sun and 30 other planets whose densities are known	338:57
Stone	Area of one end of square stone, also depth	437:22
Stone	Find where to cut off $3\frac{1}{2}$ cubic feet from a garden rolling stone	437:25
Stream	Breadth of it - by given height of a tree	184:13
Stream	Velocity of stream going through flume	341:71
Stream	Perpendicular fall of stream mean velocity given	341:73
Stream	Pressure of stream moving at certain rate against obstacle of certain size	342:76
Stream	Velocity of water issuing from head 5 feet deep	342:77
Stream	Head of water when velocity of stream from bulk head of mill given	342:78
Street	Width of it when ladder reaches a window	184:14
Sugar	Weight	92:
Sugar	Cost of sugar	95:1
Sugar	Cost of cwt. sugar	95:3
Sugar	Cost of sugar	114:1-4
Sugar	Cost of 3 cwt. 1 qr. pounds	131:4
Sugar	Cost of freight on it	138:6

Subject Matter	Situation	Index
Sugar	Amount in hogsheads	174:1
Sugar	Amount bartered for flour	255:5
Sugar	Gain or loss per cent buying and selling	257
Sugar	Selling price gain find cost	260:4
Sum	Last person gave if first and second are known i.e. arithmetic progression	207:2
Sum	Series of numbers first ratio and last known	221:1
Sum	Sum of fractions to infinity	221:12
Syringe	Length of piston in syringe to hold quart	437:26
Tea	Weight	92:2
Tea	Cost	120:22
Tea	Amount of tea bartered for wine	254:1
Tea	Amount to mix to sell at certain price	311:1
Tea	Selling price in order to gain $50.00	331:25
Tape	Cost number yards	131:9
Taxes	Amount A pays	121:36
Terms	Given the extremes, find common difference	201:1
Terms	Sum of series when extreme and differences are given	203:1
Terms	Number given with extreme find sum of series	202:1
Terms	Find number of terms extremes given and common difference	203:1
Terms	Find number when extremes and differences are given	203:2
Terms	Find difference when extremes and sum are given by arithmetic progression	204:1
Terms	Find number of terms extremes and sum are given	205:1
Terms	Number terms, sum and difference given	205:1

Subject Matter	Situation	Index
Terms	Last term when first, common difference and sum are given	206:1
Terms	First known difference and number of terms find sum of series	207:1
Terms	Difference, first and sum known, find last term	208:1 209:1 212:1
Terms	Find first term, difference, last term and sum are given	208:1 211:1
Terms	Last number & sum known, find difference	210:1
Terms	Last number and sum given find first	210:1
Terms	Difference, Number & last know, find first	211:1
Terms	Last, ratio, and number known find first	218:2
Terms	First term and given ratio, find 13th term, 7th term	218:1 219:3
Terms	First ratio and number known find last i.e. geometrical	223:1 218:1
Terms	First, ratio, number given, find sum	219
Terms	Least, greatest and ratio given, find number of terms	223:1
Terms	Least, greater and sum given, find ratio	224:1
Terms	First, ratio and sum find number of terms	224:1
Terms	Find ratio, extremes and number of terms known	225:1
Terms	Ratio, number, and greatest known find least term	226:1
Terms	Sum of series, ratio number and greatest known	227:2
Terms	Ratio, number, and sum find greatest	228:2
Terms	Ratio, last, and sum given find first	228:2
Terms	Number last and sum given find first term and ratio	229:4

Subject Matter	Situation	Index
Time	Time between dates	47:7
Time	Seconds one date to another	57:7
Time	Difference in longitude given between 2 places	93:26
Time	Longitude given, find difference in time	111:7,8
Time	Fill cistern Water running in and out	131:6 122:37
Time	Takes men to do certain work	124:55
Time	To build a house	134:18
Time	To build a wall	138:8
Time	A pipe will fill a cistern	183:7,8,9
Time	Sum amounts to given sum at compound interest	283:1 283:2
Time	Annuity at compound interest may be bought for certain sum	288:1
Time	Lease may be had at compound interest	289:2
Time	In buying estate what rate certain per cent on money	295:1,2
Tobacco	Cost of tobacco	115:9-10
Tobacco	Cost per ounce	131:5
Tobacco	Net weight	175:3 176:1,2
Tobacco	Per cent gain or loss	175:4
Tobacco	Buying and selling	257:3
Tobacco	Value of pound of mixture of 3 different prices	309:1
Timber	Width of timber having 1/3 amount of one given	436:16
Timber	Balance due in bartering 2 beams of timber	436:17

Subject Matter	Situation	Index
Timber	Length of stick of timber after $3\frac{1}{2}$ solid feet sawed off	437:21
Tide	Find height of tide raised by earth on surface of moon	338:58
Triangle	Lengths of base of triangle area and height given	434:5
Triangle	Area of triangle three sides given	435:6
Trees	Number rows of trees in grove, the short way	335:41
Trees	Difference of inscribed and circumscribed square on section of a tree	435:11
Trade	A's share in partnership	143:8
Tower	Height of tower determined from height of mercury in barometer at top and bottom of tower	353:121
Tops	Number a given number of mills will buy	131:10
Value	Of a decimal .999 to infinity	221:11
Velvet	Number of bales bought gain given	125:12
Vessel	Cubical whose side is 2 feet find side of vessel to contain 3 times as much	190:6
Vessel	Face of policy to cover insurance on vessel and cargo	266:2
Voyage	Sum to take out a policy to cover adventure of 3 voyages	268:5 269:6
Voyage	Ends at West Indies from Newburyport, find amount to be paid the insurance	270:8
Wall	Height required	184:12
Wall	Determine height of wall on rivers edge from breadth of river and length of line from opposite side to top of wall	335:44
Walk	Find side of square of given area and width of walk along one side which takes up one half of square	434:3

Subject Matter	Situation	Index
Watch	Amount sold under value	261:4
Watch	Time hour and minute hand of watch are together after 12	332:27
Water	Pressure of water on bottom of certain vessel	352:119
Water	Pressure of water against side of sluice	352:118
Water	Height water must be raised above sluice so that half as much again water may be discharged from sluice in same time	342:79
Water Tub	Time to fill one tap filling and one emptying	331:24
War	Time continued	47:8
Weight	Neat weight required	175:1,2 176:1,2
Weight	Bullet - diameter is given	190:3
Weight	Weight man balances on lever	344:86
Weight	Weight needed on lever to balance 1440 pounds	344:87
Weight	Distance from prop to place weight to balance another	344:88
Weight	Distance from weight to place prop to balance another	344:89
Weight	Weight horse bears in chaise when center of body in 2 different places	344:90
Weight	Power applied to end of lever to turn a certain screw to raise a weight	345:95
Weight	Weight to be raised by screw	345:96
Well	Find depth of well, time stone falls to bottom and time sound raises from vibration	343:85
Wells	Difference in depths of 2 wells from time takes stone to reach bottom	339:62
Wheel	Weight at axle to balance 1 pound at wheel	345:94

Subject Matter	Situation	Index
Wheel	Number times turns around in given miles	56:4
Wheel	Number times turns in given miles	120:21
Wheel	Diameter of wheel in a windlass	345:91
Wheel	Diameter of axle in a windlass	345:92
Wheel	Power at wheel to balance 10 pounds at axle	345:93
Wheel	Diameter of wheel of a perambulator	435:8
Wherry	Place of meeting on river of 2 wherries traveling between Haverhill and Newburyport	333:33
Wine	Measure reduction to quarts	58:1
Wine	Measure reduction to pints	58:2
Wine	Number gallons in cask	120:27
Wine	Cost tuns of wine	120:31
Wine	Gain and loss percent selling wine at another rate	261:3
Wine	Value of 1 gallon mix 3 different prices	309:3
Wine	Amount to mix to sell at certain price	311:2-5
Wine	Amount to be mixed to get mixture of certain value	313:1
Wine	Amounts of 4 pints of wine to mix to get mixture true of certain value	313:3
Wine	Amount water to be mixed with wine to get it to certain quantity and price	313:4
Wine	Find from specific gravities proportion of spirits of wine to be mixed with water to make proper spirit	350:108
Wine	Proportional weights of spirits of wine and water to be mixed to make proof spirit, from specific gravities	350:109
Work	Number men do larger piece work in less time	330:18
Work	Time take A & B together to do work	330:19

Subject Matter	Situation	Index
Work	Time takes C alone to build boat	331:20
Work	Time takes B alone to do work	331:21
Work	Time takes C alone to do work	331:22
Yards	Bought for given dollars	124:56
Yards	Changed to ells	139:2
Yards	Changed to ells	140
Years	To seconds	56:1 57:2,3
Years	Between two periods	47:6
	Number of Arithmetic Problems--Grand Total	738

Table III

Frequency of Occurrence of Situations by Subject Matter

In Pike's Complete System of Arithmetick - 1808

A

Table

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Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission	Cost or Value	Diameter	Difference	Discount	Distance	Fellowship	Gain	Height or Depth	Interest Compound	Interest Simple
Acres														
Age	1						1							
Anchor														
Atmosphere														
Bales														
Ball												3		
Balloon						1						1		
Bankstock					1									
Barley-corns														
Bells			2											
Body												2		
Box														
Building												1		
Bullet									1					
Bushel						1						1		
Bowl					1									
Cable														
Candles											1			
Cannon Ball														
Cargo					1									
Carpets	1													
Chaise					1									
Children														
Circle						1								
Cistern														
Cocks														
Pipes														
Totals	2		2		4	3	1		1		1	8		

Insurance	Length	Loss	Make or Do Work	Measure	Number	Present Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
				2	1												1	4
														1				3
	1															1		2
																1		1
					1													1
														4	3			10
																		2
																		1
					2													2
																		2
															2	2		6
	1			1														2
																		1
															2			3
																		2
																		1
				1														1
																		1
															1			1
1		1																3
																		1
																		1
				1														1
				3														4
														5				5
					1									1				2
					1													1
1	2	1		8	6									11	8	4	1	64

Table

Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission Cost or Value	Diameter	Difference	Discount	Distance	Fellowship	Gain	Height or Depth	Interest Compound	Interest Simple
Cistern													
Watertub													
Well											2		
Clock, Hammer Stroke													
Cloth	2	3		13									
Baize				1									
Broadcloth		2											
Coating	1												
Damask	1												
Linen	1	4		2									
Ribband		2											
Serge										1			
Shalloon	1												
Velvet	1												
Clothing				1									
Gloves		1											
Column					1								
Comet													
Cotton				1									
Creditors													
Debt						3							
Degrees													
Dice			2										
Distance													
Dogs													
Drams													
Totals	7	12	2	18	1	3				1	2		

Insurance	Length	Loss	Make or Do Work	Measure	Number	Pregent Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
														2				2
																		2
					1													1
											1							19
																		1
																		2
																		1
																		1
																		7
																		2
		1									1							3
																		1
																		1
																		1
					1													2
																		1
															1			1
											1					1		3
					1													1
														8				11
					2													2
																		2
	1														8			9
															1			1
									2									2
	1	1			5				2		3			10	10	1		79

C

Table

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Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission	Cost or Value	Diameter	Difference	Discount	Distance	Fellowship	Gain	Height or Depth	Interest Compound	Interest Simple
Earth	1													
Estate	2			1	5									
Farm					1									
Field														
Figures														
Flax					1									
Flax Seed					1									
Floor														
Foods														
beverages														
Cocoa					2									
Tea	1	1			1									
Bread														
Cheese		1												
Fish											1			
Flour		1												
Nuts														
Spices	1	1												
Sugar		2			10									
Fruits														
Apples														
Currants	1													
Figs					1									
Garden														
Glass	1													
Globe						1								
Totals	7	6	1		22	1					1			

Insurance	Length	Loss	Make or Do Work	Measure	Number	Present Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
														3	2			6
										6				1				15
										1								2
					1									1				2
					1													1
																		1
																		1
				1														1
																		2
											1							4
																1		1
																		1
	1																	2
																		1
					2													2
																		2
		1														1		14
					1													1
																		1
																		1
				1														1
																		1
																		1
	1	1		2	5					7	1			5	2	2		64

Table

Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission Cost or Value	Diameter	Difference	Discount	Distance	Fellowship	Gain	Height or Depth	Interest Compound	Interest Simple
Gold													
Goods				2					1				
Buttons				1									
Tape				1									
Grain													
Barley	2	1		1									
Corn				1									
Oats	1	1		1									
Rye	2			2									
Wheat	2	1		1									
Grindstone									1				
Ground	1												
Harness				1									
Hay	1												
Hound													
House													
Legacy	3												
Letters			5										
Light													
Lighthouse											1		
Liquors													
Beer													
Brandy		1											
Rum		1		1									
Cyder													
Wine	7	1		1									
Total	19	6	5	13					2		1		

Insurance	Length	Loss	Make or Do Work	Measure	Number	Present Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
					8													8
																		3
																		1
																		1
																		4
											1							2
																		3
																		4
																		4
																		1
																		1
																		1
																		1
														1				1
			1															1
																		3
																		5
														1				1
																		1
				1														1
											1	2						4
																		2
									1									1
		1	1															11
		1	2	1	8				1		2	2		2				65

Table

Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission	Cost or Value	Diameter	Difference	Discount	Distance	Fellowship	Gain	Height or Depth	Interest Compound	Interest Simple
Locks														
Livestock														
Cattle														
Cows					1									
Horse					2									
Sheep					2						1			
Marble														
Men			2											
Metals	1				1									
Gold					8									
Iron					1									
Silver					2						1			
Steel		1												
Tin														
Meteor														
Money	27			7			3	9		23	3		29	27
Numbers	3						12							
Pasturage					1									
Payment	2													
Pendulum														
Pillar						1								
Piston														
Planet	1													
Platform					1									
Potash														
Total	34	1	2	7	19	1	15	9		23	5		29	27

Insurance	Length	Loss	Make or Do Work	Measure	Number	Present Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
					1													1
					1													1
					1													1
																		1
			1		1													4
																		3
					1							1						2
			8		3			1						1	3			18
																		2
	1															7		16
	1																	2
																2		5
											1							2
				2														2
														1				1
7						15		12	22				2	7				193
			1		3		11	9	50				20					109
														1				2
																		2
	16													3				19
																		1
	1																	1
																		1
																		1
																1		1
7	19		10	2	11	15	11	22	72		1	1	22	13	3	10		391

Table

Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission Cost or Value	Diameter	Difference Discount	Distance	Fellowship Gain	Height or Depth	Interest Compound	Interest Simple
Pole							1				
Pounds											
Powder											
Precipice									1		
Pyramid									1		
Rammer									1		
Screw					2						
Ship				7			1	1			
Wherry											
Steeple									1		
Stone											
Stream	1								1		
Street											
Sound							1				
Square											
Taxes	1										
Terms											
Tide									1		
Timber		1									
Board	1										
Joist											
Shoar											
Stick	1										
Time						4					
Tobacco				4				1			
Total	4	1		11	2	4	3	1	1 6		

Insurance	Length	Loss	Make or Do Work	Measure	Number	Present Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
																		1
									3									3
											1							1
																		1
																		1
																1		2
																		2
1	1															3	1	15
																1		1
																		1
				2												1		3
					1													3
																	1	1
														1		1		3
				1														1
																		1
					16													16
																		1
																	1	2
	4																	5
																	2	2
	1																	1
	1																	2
			2												2			8
																1		6
1	7		2	3	17				3		1			1	2	8	5	83

Table

Frequency of Occurrence of

	Amount Quantity	Barter	Changes	Commission	Cost or Value	Diameter	Difference	Discount	Distance	Fellowship	Gain	Height or Depth	Interest Compound	Interest Simple
Tops														
Tower												1		
Trees														
Triangle														
Vessel														
Voyage	2													
Walk					1									
Wall												3		
War														
Watch														
Water	2											1		
Weight	11				4					2				
Wells												1		
Windows	1													
Wheel						3								
Work					1									
Yards					5									
Year														
Total	16				11	3				2		6		

Insurance	Length	Loss	Make or Do Work	Measure	Number	Present Worth	Product	Quotient	Reduce	Rent	Selling Price	Specific Gravity	Sum	Time	Travel or Velocity	Weight or Pressure	Width	Total
					1													1
																		1
					2									1				3
				2														2
1					1													2
																		2
																	1	2
														1				4
	1																	1
											1			1				2
															1	2		6
									19									36
																		1
																		1
																		3
														1				2
					3				6		1							15
					2									1				3
1	1			2	9				25		2			5	1	2	1	87
-															GRAND TOTAL			833*

* The total number of problems is numbered here 835 and in Table I it is 738. This difference in the total number is due to problems having two or more questions each of which were listed.

PIKE'S COMPLETE ARITHMETICK - 1808

Table IV

This table is a summary according to specific situations of Table III.

Amount Situations		Totals
Amount or Quantity		89
Difference		23
Number		61
Sum		2
	Grant Total	175
Measure Situations		
Diameter		11
Distance		6
Height or Depth		23
Length		30
Measures		19
Reduce		103
Weight		27
Width		7
Velocity		26
	Grand Total	252
Money Situations Not Buying or Selling		
Fellowship		26
Gain		9
Insurance		10
Interest		56
Loss		4
Present Worth		15
Rent		7
	Grand Total	127
Miscellaneous Situations		
Changes		12
Product		11
Quotient		22
Specific Gravity		3
	Grand Total	48

Table IV

		Totals
Buying Situations		
Cost		98
Selling Situations		
Selling Price		10
Buying & Selling Situations		
Barter		26
Commission		7
Discount		9
	Grand Total	42
Time Situations		
Time		47
Do Work		14
	Grand Total	61

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Table V

Showing the Number of Places in Given Figures in Problems as stated but not solved.
(Pikes Arithmetick)

Number of Places	Frequency	Percentage
1 Place	61	8.3
2 Places	251	34.1
3 Places	210	28.5
4 Places	123	16.4
5 Places	52	7.1
6 Places	19	2.6
7 Places	6	.9
8 Places	9	1.2
9 Places	1	.1
10 Places	2	.2
11 Places	1	.1
12 Places	2	.2
19 Places	1	.1
Total	738	99.8

Table VI

Showing Number of Places in the Decimals Occurring in the Problems as stated but not solved of Pike's Arithmetick.

Number of Places	Frequency	Percentage
1 Place	16	7.7
2 Places	128	61.2
3 Places	43	20.5
4 Places	15	7.2
5 Places	5	2.5
6 Places	1	.47
7 Places	0	.0
8 Places	0	.0
9 Places	1	.47
Total	209	99.84

Table VII

Showing the Total Number of Fractions Occurring in all problems as stated but not solved.

Fraction	Frequency	Percentage
1/2	86	36.1
1/3	17	7.1
2/3	12	5.0
1/4	29	12.1
3/4	17	7.1
1/5	5	2.1
2/5	4	1.6
3/5	5	2.1
1/6	4	1.6
5/6	4	1.6
2/7	1	.4
3/7	3	1.3
5/7	4	1.6
1/8	5	2.1
3/8	6	2.5
5/8	3	1.3
7/8	3	1.3
2/9	1	.4
1/10	2	.8
6/10	1	.4
7/10	1	.4
2/11	1	.4
3/11	1	.4
7/12	1	.4
1/13	1	.4
3/13	1	.4
5/13	1	.4
12/13	1	.4
1/14	1	.4
4/15	1	.4
9/15	1	.4
5/16	1	.4
7/16	1	.4
1/20	2	.8
1/26	1	.4
17/27	1	.4
15/31	1	.4
3/32	1	.4
1/120	1	.4
5/246	1	.4
129/313	1	.4
283/365	1	.4
1/1625	1	.4
475/2800	1	.4
Total	238	98.9

Table VIII

Number of Problems, Distributed on the Basis of the Processes Used in Pike's Arithmetick

Processes	Frequency	Percentage
Addition	6	.8
Subtraction	5	.6
Multiplication	78	11.0
Division	25	3.3
Addition, Subtraction, Multiplication, Division	30	4.0
Addition, Subtraction	4	.5
Addition, Multiplication	40	5.4
Addition, Division	6	.8
Addition, Subtraction, Multiplication	6	.8
Addition, Subtraction, Division	10	1.3
Addition, Multiplication, Division	82	11.1
Subtraction, Multiplication	18	2.4
Subtraction, Multiplication, Division	50	7.
Subtraction, Division	12	1.6
Multiplication, Division	208	28.1
Compound Addition	3	.4
Compound Subtraction	2	.2
Compound Multiplication	34	5.0
Compound Division	24	3.2
Compound Addition, Compound Subtraction	3	.4
Compound Addition, Compound Multiplication	4	.5
Compound Addition, Compound Division	2	.2
Compound Subtraction, Compound Multiplication	10	1.3
Compound Multiplication, Compound Division	19	3.0
Compound Addition, Compound Multiplication, Compound Division	1	.1
Compound Subtraction, Compound Multiplication, Compound Division	1	.1
Addition, Compound Multiplication	3	.4
Addition, Multiplication, Compound Division	3	.4
Square Root	5	.6
Multiplication Square Root	8	1.0
Division Square Root	5	.6
Addition, Multiplication, Square Root	3	.4
Subtraction, Multiplication, Square Root	4	.5
Multiplication, Division, Square Root	8	1.0
Addition, Subtraction, Division Square Root	4	.5
Subtraction, Multiplication, Division Square Root	1	.1
Subtraction, Division Square Root	1	.1
Addition, Subtraction, Multiplication Square Root	4	.5
Multiplication, Cube Root	2	.2
Multiplication, Division, Cube Root	3	.4
Division Seventh Root	1	.1
Total	738	99.9

Table IX

Problems and Examples already Solved in Pike's Arithmetick.

From Pages 13 - 366		629
From Pages 396 - 438		31
	Total	660

Problems and Examples not solved but Answers Given

From Pages 13 - 366		564
From Pages 396 - 438		0
	Total	564

From this table one realizes that 45% of all the problems and examples are already solved for the pupils, while 38% are not solved but the answers are given, leaving 17% to be worked out for answers, or 55% for process.

Table X

Analysis of Pages In Pike's Arithmetick 1808

	Pages	Inches	Pages
Introduction	1 - 12		
Title Page			
Name of Book		3.	.4
Name of Author		.5	.06
Latin quotation		.5	.06
Number of Edition and name of revisor		1.	.13
Publishers		1.5	.2
Copyright	2	2.5	.33
Recommendations	314		1.73
Preface to First Edition	5		1.
Preface to Third Edition	6		.73
Table of Contents	7 - 10		4.
Explanation of Characters	8		1.6
Arithmetic Text	13 - 366		353.
Higher Mathematics	367 - 396½		30.5
Arithmetic	396½ - 438		42.5
Higher Mathematics	439 - 478		39.
Errata	478 - 480		1.26
Blank Pages			2.47
			479.97

Analysis of Pages in Pike's Arithmetick
Already Included in Table - X

	Pages
Tables Arithmetic	33.133
Higher Mathematics	1.133
	34.266
Illustrations Arithmetic	2.9
Higher Mathematics	2.733
	5.633

CHAPTER II

Colburn's Sequel

Published By

Hillard, Gray, Little, and Wilkins - 1828

Table XI

Topics or Processes under which Problems and Examples are classified in Colburn's Sequel, 1828

Topic	Number of Examples	Number of Problems
Numeration and Notation	80	0
Addition	9	46
Subtraction	21	56
Multiplication	187	528
Division	273	475
Multiplication and Division	96	186
Fractions) Decimals) Included in above		
Compound Numbers	0	74
Barter	0	10
Percentage Including Interest, Commission, Insurance, Duties, Discount, Loss and Gain	0	141
Fellowship	0	17
Equation of payments	0	7
Alligation	0	16
Mensuration	0	90
Total	666	1646

Table XII

Problems Listed in Relation to Subject Matter and Situation in Colburn's Sequel - 1828.

Subject Matter	Situation	Index
Acres	Mowed by 5 men	74:58
Age	Of man from given date	15:19,20
Age	Of man when married	29:7
Age	Of man from given date	29:1
Age	Of Washington	30:18
Age	Of boy from age of another	65:19
Age	Of woman from husband's age	65:20
Age	Difference in ages of man and wife	65:21
Age	Of man from given data	73:29
Age	Of man when sum of $\frac{1}{2}$ and 1/3 his age is given	78:129
Age	Of Newton	40:1
Ages	Difference in ages of two men	195:1
Ages	Of 2 men from given data	255:117
Ages	Find ages of 2 persons	230:147,149
Ages	Of man and wife at marriage	231:162
Ages	Of 2 from relation to ages of another	231:166
Alum	Cost	86:21
Bankstock	Total value	72:8 73:38
Bankstock	Selling price	162:1
Bankstock	Part of share sold	167:2

Subject Matter	Situation	Index
Bankstock	Part sold	199:2
Beeswax	Cost	48:5
Book	Cost after discount allowed	93:77,78
Books	Cost	28:49
Books	Duty	92:70
Bricks	Number to build house	102:26
Bricks	Number to build given wall	214:49
Candles	Number boxes filled	43:4
Candles	Cost	48:7 86:42
Candles	Number pounds bought	100:109
Cannon-ball	Distance it flies	20:20 27:31
Cargo	Share of loss of man who owned 3/8 of it	60:33
Cargo	Value of ship's cargo	73:36
Cargo	Part of cargo man lost	168:1
Cistern	Amount of water running in	20:16
Cistern	Time to fill	42:39
Cistern	Time to fill 3 cocks filling one emptying	225:123
Cistern	Cubic contents	227:141
Cistern	Cubic feet of water it holds	234:187
Cisterns	Amount of water each of 2 received per day	230:153
Clock-Hammer	Number times strikes in 24 hours	14:8
Cloth	Number yards merchant bought	15:12
Cloth	Cost	17:7

Subject Matter	Situation	Index
Cloth	Number yards and cost	17:12
Cloth	Cost	22:19,22 23:4 26:19
Cloth	Number yards equal to another wider piece	27:38
Cloth	Value	27:39
Cloth	Cost	27:41
Cloth	Buying and selling number yards left	29:10
Cloth	Amount gained buying and selling	29:11
Cloth	Buying and selling, find cost	29:12
Cloth	Buying and selling, find selling price	29:13
Cloth	Amount bought	33:14,17
Cloth	Cost	37:2 38:21
Cloth	Value	38:24
Cloth	Number yards in 4 pieces	38:30
Cloth	Buying and selling, find amount left	39:34
Cloth	Amount after some cut off	39:38,39
Cloth	Amount after cutting out 3 suits	39:46
Cloth	Value	40:1
Cloth	Cost	40:8 48:1
Cloth	Cost	49:15 50:4 52:50,51 53:61
Cloth	Bartered for pepper	56:138
Cloth	Buying and selling, find selling price	57:143

Subject Matter	Situation	Index
Cloth	Cost	59:6 60:14 61:44,49,50
Cloth	Part of yard bought for $1/3	61:53
Cloth	Amount bought	61:54
Cloth	Amount to make coats	63:10
Cloth	Number yards	64:1
Cloth	Amount for coat and pantaloons	64:5
Cloth	Buying and selling yards left	64:10
Cloth	Cost per yard	65:2
Cloth	Number coats made of 187 yards	69:19
Cloth	Number suits made	70:48
Cloth	Cost	72:3,13 73:21,31
Cloth	Value	73:39
Cloth	Cost	74:47,52
Cloth	Bartering cloth for flour	74:50
Cloth	Buying and selling, find cost and gain	76:110
Cloth	Buying and selling, find loss per yard	77:117
Cloth	Cost	85:2 86:44
Cloth	Amount not sold	85:7
Cloth	Number coats can be made	97:31
Cloth	Cost per yard	98:43 99:94 100:110
Cloth	Cost	101:2
Cloth	Number yards bought	152:2

Subject Matter	Situation	Index
Cloth	Cost of given amounts	154:3
Cloth	Cost per yard	161:1 163:2 166:1
Cloth	Yards bought	173:1
Cloth	Cost per piece	174:3
Cloth	Number yards bought	183:4
Cloth	Cost per yard	185:2,3
Cloth	Number yards bought	191:1 194:1
Cloth	Number yards in 7 pieces	196:1
Cloth	Cost per yard	202:2 212:10,12
Cloth	Amount to make coat to make 13 coats	212:18
Cloth	Cost 17 yards	212:19
Cloth	Selling price to gain 15 per cent	214:52
Cloth	Buying and selling number yards linen and cotton cloth bought	232:173
Carpet	Number yards to cover given floor	101:13 102:14
Broad-cloth	Cost of broadcloth and flour	17:13
Broad-cloth	Cost	26:20,21 37:8
Broad-cloth	Number coats can be made	35:94
Broad-cloth	Bartering broadcloth for molasses	37:106
Broad-cloth	Cost	52:49 54:71 73:24
Broad-cloth	Cost	88:17,18 89:39

Subject Matter	Situation	Index
Cloth		
Broadcloth	Cost per yard	200:1
Flannel	Amount to line cloak	101:9
Flannel	Amount to line coat	213:35
Flannel	Amount to line coats for regiment	213:37
Linen	Cost	19:3 49:1
Nankin	Cost	86:43
Riband	Cost	61:51 101:3
Clothes	Cost hat, coat, vest, boots	11:3
Clothes	Number suits made from 48 yards	182:3
Coats	Number can be made from given piece of cloth	203:1 70:46
Hat	Number can be made from given amount fur	70:42,43
Clothing	Cost of hat and coat	120:1
Clothing	Difference in cost of coat and hat	138:5
Coal	Cost	24:16 49:2 150:5
Coal	Bought	41:18 43:5 70:51
Coal	No. chaldrons to supply fire	47:4
Coal	Time will supply fire	69:31
Coal Mine	Value	73:37
Cotton	Cost	19:6
Cotton	Weight of 4 bales	39:33
Cotton	Bartered for flour, find amount money paid	39:37
Cotton	Weight of 4 bags	64:9
Cotton	Weight in 17 bales	85:5

Subject Matter	Situation	Index
Cotton	Weight of a decimal of a bale	87:49
Cotton	Number hundred weight in 5-2/5 bales	90:43
Cotton	Weight in 3-7/10 bales	198:1
Cotton	Manufactory part sold and part left	60:34
Distance	Number miles man travelled in 3 days	11:6
Distance	From Portland, Me., to Savannah	14:6
Distance	Man travels	19:13
Distance	Ship sails	19:14,15
Distance	Between 2 men traveling at different rates at end of 1 day and of 15 days	23:8
Distance	Reducing miles to rods	23:13
Distance	Between 2 cities	30:16
Distance	Left to travel	30:17
Distance	Man travels	51:37
Distance	Stage runs	52:38
Distance	Man travels	52:40
Distance	Load carried	57:154
Distance	Man traveled	59:11 60:12
Distance	Man travels	73:27,35
Distance	Man travels per hour	97:6
Distance	Difference in 2 distances	138:3
Distance	Travelled in given number days	164:1
Distance	From Turk's Island to Boston, from latitude	235:197
Distance	From mouth of Columbia river to Montreal reckoned from longitudes	235:198
Distance	Each of 2 had travelled from different starting points when they met	213:30

Subject Matter	Situation	Index
Distance	Miles per day man travelled	231:160
Earth	Find circumference	234:188
Earth	Number miles in degree of earth's circumference	234:190
Earth	Number degrees earth turns in 1 hour	234:191
Earth	Number minutes of a degree earth turns in 1 minute	234:192
Earth	Distance earth moves around sun every hour	235:196
Estate	Son's share	30:21
Estate	Divided among 4	221:86
Estate	Shares of wife and son	225:115
Estate	Shares of wife, son, and daughter	226:126
Estate	Shares of each of 2 sons	226:125
Estate	Shares of each of 4 sons	227:137
Estate	Left to 2 sons and 3 daughters, find share of a son	230:155
Estate	Shares of wife, son and daughter	230:156
Estate	Shares of each of 3 children	231:158,161
Estate	Shares of each of 3 sons	232:174
Estate	Amount at first	232:175
Farms	Total value of 3	123:1
Food	Cost of buns, cherries, and oranges	11:2
Food	Cost of butter, cider and veal	11:4
Food	Number men can be fed 1 day on certain amount of food	27:32
Food	Number days will last a garrison	27:33
Food	Number men certain amount will serve	27:34

Subject Matter	Situation	Index
Food	Cost	27:42 38:32
Food	Amount change when paying $10.00 for food	31:27
Food	Time different sums will pay one's board	41:12
Food	Number barrels given number men eat	54:79
Food	Cost	84:1
Food	Bartered for wood and wheat, find amount money received	85:10
Food	Total cost	121:2 189:1
Food	Daily allowance of ship's crew when 8 men added	213:34
Food	Time food lasted garrison when more men added	213:36
Beef	Cost	17:4 20:1 18:34 23:6
Beef	Cost	24:10
Beef	Amount bought	38:8 43:1 41:21
Beef	Cost	49:16 59:5 51:26 54:68 169:1
Beverages		
Chocolate	Amount bought	41:23
Chocolate	Cost	48:6 50:3
Cocoa	Amount bought	33:11,12 41:24
Cocoa	Cost	52:43,44
Coffee	Cost	20:20 37:3 38:19
Coffee	Bartering for tea	36:105

Subject Matter	Situation	Index
Beverages		
Coffee	Buying and selling, find selling price	57:145
Coffee	Number hundredweight in $13\frac{3}{4}$ bags	90:44
Tea	Cost	19:2 38:18,20
Tea	Amount bought	44:8
Tea	Cost	52:52 56:131
Tea	Cost per pound when exchanged for cambric	78:127
Tea	Duty	93:71
Tea	Amount at 2 different prices to mix to sell for $1.00 per pound	220:78
Butter	Cost	24:18 41:14
Butter	Amount left after some taken	39:40
Butter	Bartered for sugar amount money paid	39:41
Butter	Bartered for fish	42:36
Butter	Cost	61:46 62:1
Butter	Amount in two boxes	64:6
Butter	Cost	74:43,50 86:41
Butter	Cost per firkin	98:40
Butter	Number pounds when divided into seven equal parts	163:3
Butter	Cost per firkin	185:1
Cheese	Amount bought	43:2
Eggs	Number bought	70:37
Fish	Cost	37:5

Subject Matter	Situation	Index
Fish	Amount bought	41:13 42:31
Fish	Cost	49:14 50:16
Fish	Find length	221:165
Flour	Buying and selling find selling price	15:16
Flour	Cost	17:9,10 20:2 23:2
Flour	Selling price after discount given	31:29
Flour	Amount bought	32:4
Flour	Amount of rye flour bought	40:10
Flour	Amount bought	41:16,20 42:29
Flour	Bartered for brandy	42:38
Flour	Bartered for groceries	43:43
Flour	Number barrels will last family	46:1
Flour	Time sill last family	47:5
Flour	Number barrels family consumes	48:3
Flour	Number men it will serve	48:7
Flour	Cost	49:18
Flour	Cost	50:12,20,21 51:54,67
Flour	Amount to serve different number men	54:75
Flour	Buying and selling, find selling price	56:142
Flour	Barrel divided between 2 men	56:160
Flour	Amount when divided between 3	59:3
Flour	Divided between 2 men	60:22
Flour	Divided between 4 men	60:24

Subject Matter	Situation	Index
Flour	Cost	61:39 63:8
Flour	Number barrels bought	62:57
Flour	Buying and selling, find selling price per barrel	66:3
Flour	Amount bought	71:65
Flour	Cost and amount divided between 2 men	71:69
Flour	Number penny loaves made	70:38
Flour	Selling price	72:15
Flour	Cost	73:28 74:53
Flour	Time will serve family	74:46
Flour	Buying and selling, find cost and gain	76:11
Flour	Cost of decimal part of barrel	86:13
Flour	Share of each of 5 persons	97:4
Flour	Cost per barrel	98:39,45 99:92
Flour	Number barrels bought	99:91
Flour	Buying and selling, find gain per cent	104:35
Flour	Buying and selling, find gain	140:2
Flour	Number barrels bought	145:1 152:1
Flour	Number barrels army eats in a week	158:1
Flour	Amount each of given number of families get	165:1 166:2
Flour	Part of barrel each of 2 gets	167:1
Flour	Total amount sold	171:2
Flour	Amount not sold	174:1

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Flour	Cost per barrel	174:2 186:1
Flour	Number barrels bought	190:1
Flour	Amount each of 16 received	193:1
Flour	Amount each of 13 received	201:1
Flour	Cost per barrel	211:6 212:11
Flour	Divided between 7 men	212:16
Flour	Cost of 17-5/9 barrels	212:25
Fruit	Cost of orange and pear	119:1
Fruit	Cost of apple and pear	229:146
Fruit	Buying and selling apples and exchanging for pears, find number apples bought and cost	232:169
Apples	Number bought	32:3
Apples	Number boy had	29:3
Apples	Number bushels can be bought	69:25,28 69:30,33
Apples	Number busels bought	70:44,45
Apples	Number given to second boy	138:4
Apples	Number given to each of 8	142:1
Apples	Number companions apples given to	142:2
Apples	Divided between 2 so that one has 7 more	225:124
Apples	Value of barrel by comparison with value of cider and flour	229:145
Figs	Cost	59:1
Figs	Number pounds can be bought	69:29
Figs	Cost	170:3

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Fruit		
Figs	Number pounds bought	183:3
Figs	Cost per pound	211:1
Lemons	Number can be bought	69:26
Lemons	Cost	73:25
Lemons	Number bought	97:30
Lemons	Buying and selling, find number bought	230:152
Orange	Value of decimal of an orange	87:48
Orange	Part each of 2 boys get	166:3
Oranges	Number bought	32:1 40:9
Oranges	Number boxes filled	43:7
Oranges	Cost	50:14
Oranges	Number can be bought	69:27
Oranges	Cost a piece	143:1
Peaches	Number left	230:157 29:1
Peaches	Number bought	68:2
Pears	Number bought	144:1
Pineapple	Divide 1/4 into 2 parts	60:17
Pineapple	Amount boy kept	64:7
Water-melon	Part each of 2 boys get	60:16
Meal	Number bushels in 14 sacks	85:3
Meat	Cost	130:1
Meat	Number pounds bought	156:1
Molasses	Buying and selling, finding selling price	15:18

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Molasses	Cost	17:2 18:18 20:47
Molasses	Number pints in 1 hogshead	18:32
Molasses	Value of part not cast overboard	32:47
Molasses	Value bought	33:19
Molasses	Bartering for corn	36:104
Molasses	Cost	49:9,10 51:28
Molasses	Cost	54:80 56:126
Molasses	Buying and selling find selling price	57:144
Molasses	Cost	72:19,20 73:26,32
Molasses	Buying and selling, find cost and loss	76:114 77:116
Molasses	Cost of decimal part of hogshead	86:16
Molasses	Cost	86:37 88:8
Molasses	Buying and selling, find gain per cent	103:34 104:37
Molasses	Cost	126:1
Molasses	Buying and selling, find selling price per gallon to gain 3 per cent	214:53
Pork	Amount bought	33:18 44:9
Pork	Cost	85:1 87:45
Pork	Buying and selling, find selling price of a part	163:1
Potatoes	Cost	20:46 59:2
Potatoes	Bartered for flour	42:37

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Potatoes	Bushels bought	68:1 70:34 183:1
Potatoes	Cost per bushel	211:4
Raisins	Cost	37:11
Raisins	Weight	38:13
Raisins	Number boxes bought for $125.00	40:6
Raisins	Amount bought	43:3
Raisins	Cost	50:18 54:69,81
Raisins	Cost	60:15,29 61:45 62:2
Raisins	Cost	74:44 87:3 89:37
Raisins	Number hundred-weight in 7-3/5 casks	90:42
Raisins	Number pounds bought	97:29
Raisins	Cost per pound	211:3
Rice	Cost	38:22
Rice	Selling price after discount given	57:146
Rice	Cost	60:28 88:5
Salt	Buying and selling, find selling price	15:17
Salt	Cost	26:18
Salt	Bartering for fish	36:102
Spices	Amount of 4 kinds to mix to sell at 1s. 8d. per pound	219:77
Sugar	Cost	20:45 24:17 25:2,3,12

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Sugar	Amount bought	33:7,10,13
Sugar	Cost	37:7
Sugar	Weight in each 3 boxes	37:9
Sugar	Buying and selling, amount not sold	39:45
Sugar	Cost	50:17 54:70 55:123
Sugar	Bartered for flour	56:136
Sugar	Cost	56:125,130 60:26,31
Sugar	Cost	61:41,48
Sugar	Amount bought	64:12
Sugar	Buying and selling number pounds not sold	65:15
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Sugar	Amount bought	71:66
Sugar	Selling Price	74:42
Sugar	Cost	87:1 88:14,15
Sugar	Buying and selling, find selling price	93:76
Sugar	Cost	101:1,4 170:2
Sugar	Cost of 53-4/5 hundredweights	212:21
Sugar	Cost per hundredweight	212:24
Sugar	Value per pound of mixture	218:70
Sugar	Amount at different prices to mix to get mixture worth given amount	218:75
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Glass	Square feet in windows of house	214:51
Goods	Man sold horse, hay, cider	11:5
Goods	Man bought watch, cane, hat, boots	13:1
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Goods	Bartering tobacco, beef and coffee for brandy and sugar, find money due	30:26
Goods	Cost after discount given	32:48
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Goods	Buying and selling, find gain	76:112
Goods	Buying and selling, find cost and loss	76:113 77:115
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Goods	Buying and selling, find cost and selling price	78:126
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Goods	Cost of carrying per hundredweight per minute	101:10
Goods	Find loss per cent	104:36
Goods	Buying and Selling, find gain per cent	104:39,40
Goods	Find per cent of discount	104:42
Goods	Buying and selling, find total cost and selling price to gain 12 per cent	104:54
Goods	Buying and selling, find gain per cent	215:56
Grain	Amount rye, wheat, and corn bought	36:99
Grain	Cost of corn and wheat	38:25
Grain	Divided between two men	60:20
Grain	Time will last family	68:8
Grain	Number bushels of mixture, value, and value per bushel	218:69
Grain	Amount oats and corn mixed to sell at $.50 per bushel	219:76
Grain	Amount corn to mix with wheat to sell at given price	220:82
Grain	Amount barley and oats to mix with rye to sell mixture at given price	220:83
Grain	Selling price per bushel of rye and wheat	226:131
Grain	Cost per bushel of corn and rye	231:59
Barley	Bushel bought	100:112
Barley	Cost per bushel	100:113
Corn	Cost	37:1 40:4
Corn	Bartered for wheat	42:35

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Grain		
Corn	Bought	43:6
Corn	Cost	50:19 56:129
Corn	Amount to serve men	53:58
Corn	Compare worth of calves to that of corn	59:9
Corn	Divided between 15 men	60:13
Corn	Divided between 2 men	60:18
Corn	Amount men eat	62:3
Corn	Bushel paid for labor	64:3
Corn	Amount in 2 sacks	64:4
Corn	Number bushels to pay for labor	64:11
Corn	Number laborers corn given to	68:3
Corn	Amount bought	70:35 71:68
Corn	Cost	72:11 74:45
Corn	Value	73:40
Corn	Number bushels in 4 bags	84:2
Corn	Share when divided between 8 persons	97:5
Corn	Bushels bought	182:1,2
Corn	Share of each of 18 men	200:2
Corn	Cost per bushel	211:2
Corn	Amount to repay loan	213:38
Corn	Part of bushel man and wife ate, part each alone ate, and time it would last man	225:121
Oats	Amount horse eats	48:2
Oats	Cost	50:22
Oats	Bushels horses eat	51:36 52:47

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Grain		
Oats	Amount to feed horse	53:57 63:4,7
Oats	Number acres 18 bushels will sow	68:11
Oats	Time will feed horse	70:47
Oats	Bushels bought	97:27
Oats	Amount horse ate	159:5
Oats	Time 12 bushels will feed horse	181:2
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Rye	Cost	50:10
Rye	Number acres to produce different amounts	54:78
Rye	Amount bought	61:37
Rye	Number acres sowed	68:4
Rye	Number acres to produce 75 bushels	69:15
Rye	Amount bought	70:36
Rye	Cost	72:12
Rye	Number acres 23 bushels will sow	97:32
Rye	Amount bought for $1.00 and for $15.00	168:2
Wheat	Cost	26:17
Wheat	Number penny loaves made from bushel	27:40
Wheat	Amount bought	33:16
Wheat	Cost	38:16
Wheat	Amount bought	38:31
Wheat	Bartered for corn, find money paid	39:36
Wheat	Cost	50:11
Wheat	Amount to sow	54:73

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Grain		
Wheat	Amount land to produce wheat	54:76
Wheat	Amount different parcels of land producing wheat	54:77
Wheat	Amount to pay debt	57:155
Wheat	Cost	59:7
Wheat	Compare worth of wheat to worth of sheep	59:8
Wheat	Cost	61:35 74:41
Wheat	Number acres 23 bushels will sow	68:12
Wheat	Amount bought for $20.00	69:13
Wheat	Number bushels raised in 5 fields	85:4
Wheat	Number acres to produce 198 bushels	97:33
Wheat	Cost per bushel	98:42
Wheat	Number to whom given amount was given	158:3
Wheat	Amount each of 8 received	191:2
Wheat	Number men to reap given amount in given time	213:39
Wheat	Weight of penny loaf when wheat sells at different price	213:31
Wheat	Amount for given number a given time	213:41
Wheat	Amount army eats in given time	214:45
Greyhound	Number leaps he must take to overtake hare	232:176
Guns	Number carried by U.S. frigates in 1818	15:13
Hay	Cost	20:42
Hay	Weight of 2 loads	38:27
Hay	Cost of 2 loads	38:28
Hay	Amount bought	41:25
Hay	Number tons keep 23 cows	48:4

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Hay	Amount horses eat	63:9
Hay	Number hundredweight bought	65:17
Hay	Amount horse did not eat	65:18
Hay	Cost	51:35 52:39
Hay	Amount horses eat	59:4
Hay	Number cows it will feed	70:50
Hay	Cost	72:2
Hay	Number hundred weight in 4 loads	85:3
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Hay	Cost of hay, oats, corn and	85:5
Hay	Number hundredweight in 14 loads	85:6
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Hay	Cost per ton	98:44 100:11 184:4
Hay	Cost	165:4 132:2
Hay	Number horses fed on given amount	183:2
Hay	Cost	199:1
Hemp	Cost	86:20
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Hops	Weight	38:14
Hops	Cost	86:6 89:38
House	Share rent each of several lodgers pays	221:90
House	Share of cost of three paid	226:127
House	Two buy a house. Find money each had from given conditions	230:151

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Indigo	Bartered for broadcloth	42:34
Indigo	Cost	50:15
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Inhabitants	Number in Middle States in 1820	16:28
Inhabitants	Number in certain states in 1820	16:29
Inhabitants	Number in certain states in 1820	16:30
Inhabitants	Number in U. S. in 1820	17:31
Inhabitants	Difference in number of inhabitants in Boston and New York 1820	30:23
Inhabitants	Increase in Boston in 10 years	30:24
Inhabitants	Distance inhabitants of earth at equator carried each hour	234:189
Laborer	Time he worked	232:177
Laborers	Number men and boys hired	36:97
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Land	Width of land 17 rods long to make acre	81:12
Land	Acres in given place	102:18
Land	Cost	102:19
Land	Amount in triangular field	234:184
Lime	Selling price	101:6
Liquors		
Beer	Time last family	47:3
Beer	Amount divided	53:59
Beer	Time will last boarders	57:147
Beer	Cost per barrel	98:41 211:8

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Liquors		
Brandy	Cost	18:16 23:7 24:20
Brandy	Number quarts in 4 hogsheads	18:22
Brandy	Selling price	19:5
Brandy	Buying and selling, find gain	30:25
Brandy	Amount bought	43:42
Brandy	Cost	50:13 51:25
Brandy	Reducing fraction of a hogshead	55:121
Brandy	Cost	56:128, 132
Brandy	Bartered for cloth	56:137
Brandy	Buying and selling, find selling price	56:139
Brandy	Amount bought	61:55 66:9
Brandy	Cost	71:1 72:4,5 73:23
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Brandy	Buying and selling, find cost and loss	77:123
Brandy	Cost when exchanged for molasses	78:128
Brandy	Cost	88:10,16
Brandy	Amount bought	99:90
Brandy	Buying and selling, find gain	215:54
Brandy	Buying and selling, find cost per gallon	231:163
Cider	Cost	17:8 23:12
Cider	Barrel bought	23:2
Cider	Number bottles a barrel will fill	35:95
Cider	Part of barrel certain sum will buy	40:5

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Liquors		
Cider	Number bottles filled	40:7
Cider	Number barrels last family	46:2
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Cider	Amount to serve different number of men	54:74
Cider	Part of barrel bought for $.50	61:52
Cider	Amount different number men drink	63:6
Cider	Cost	63:11
Cider	Amount not leaked out	65:16
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Cider	Time hogshead will last laborer	68:9
Cider	Barrel bought	69:14
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Cider	Cost	132:1
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Cider	Time barrel lasts 3 men	225:122
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Gin	Cost of decimal part of hogshead	86:15
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Gin	Cost per gallon	211:5,9
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Liquors		
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Rum	Value per gallon of mixture	218:72
Rum	Number gallons to cost same as different number gallons at different price	218:73
Rum	Parts of water to add to sell at less price	220:80
Rum	Amount of each at 3 prices to mix with water to sell at given price	220:81
Wine	Buying and selling, find selling price	15:21
Wine	Cost	18:14,15,17
Wine	Number quarts in hogshead	18:21
Wine	Amount man sold tun for at retail	18:33
Wine	Cost	19:4 23:3
Wine	Buying and selling, find selling price	29:14
Wine	Bartered for molasses balance due and to whom	31:28
Wine	Selling price and loss	31:30
Wine	Number vessels filled from pipe	35:96
Wine	Cost	37:4
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Wine	Amount left in hogshead	39:35
Wine	Amount bought	42:30 43:41
Wine	Cost	52:42 54:72
Wine	Amount when divided	53:63
Wine	Reduce fraction of a gallon	55:109

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Wine	Hogshead divided between 2 men	58:161
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Wine	Selling price per gallon	66:5
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Wine	Number casks bought	70:53
Wine	Selling price	72:14
Wine	Cost	73:22 74:48
Wine	Buying and selling, find cost	76:109
Wine	Cost	86:40 88:7 89:41
Wine	Duty	93:72
Wine	Amount bought	97:26 98:37 99:88,89
Wine	Buying and selling, find gain per cent	103:33
Wine	Buying and selling, find loss per cent	104:38
Wine	Cost	134:1 135:1
Wine	Amount not sold	171:1
Wine	Amount bought	203:2
Wine	Cost per gallon	211:7
Wine	Amount last given number a given time	214:47
Wine	Buying and selling, find gain	215:55

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Liquors		
Wine	Value of mixture per gallon	218:71
Wine	Amount water added to reduce price	218:74
Wine	Number gallons to mix with other wine to sell at given price	220:84
Wine	Share of loss of 3 merchants when some cast overboard in storm	220:85
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Livestock	Cost of cow and horse	121:1
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Livestock	Ox and cow bought, find price if ox	141:1
Livestock	Cost of sheep, cow, and ox	226:128
Livestock	Number calves and sheep sold	226:129
Livestock	Number oxen, cows, and sheep sold	226:130
Livestock	Number sheep and cattle	227:135
Livestock	Number cows, sheep, and oxen	227:136
Livestock		
Cows	Total weight	15:15
Cows	Cost	17:5
Cows	Cost each	65:1 212:23
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Horses	Value of horses and saddles	14:9
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Ox	Cost	21:5
Ox	Share of cost of each of 4 men	226:132 227:133
Oxen	Cost	17:6 19:1 20:43 23:1

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Sheep	Number not sold	137:2 139:1
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Measure	Square inches and square feet in a board	81:30
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Measure	Number tons of timber in 2 sticks	83:47
Measure	Number feet of wood in a cord	83:48
Measure	Number solid feet, feet of wood, and cords in a pile of wood	83:49
Measure	Number square feet in a board	91:60,62
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Measures	Find number gills in 174 pints	18:20
Measures	Find number pints in 1 pipe	18:24
Measures	Find number gills in 1 hogshead	18:25
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Measures	Find number quarts in 8 gallons 2 quarts	18:27
Measures	Find number pints in 4 gallons 3 quarts 1 pint	18:28
Measures	Find number gallons in 3 hogsheads 42 gallons	18:29
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Measures	Find number pints in 1 hogshead 35 gallons 3 quarts 1 pint	18:31
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Measures	Find what decimal of a yard is 1 quarter 3 nails	88:20
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Iron	Amount left after selling some	39:44
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Silver	Number spoons can be made	36:100
Silver	Cost	38:23
Silver	Weight of 6 spoons	38:26
Silver	Cost	52:45
Silver	Weight of silver cup and cover	231:167
Silver-Cup	Value	25:14
Silver-Cup	Cost per grain and per ounce	56:134
Steel	Amount bought	33:9
Steel	Number axes made from 1 hundredweight	68:10
Steel	Number pounds buy for $50.00	69:17
Money	Amount 2 boys have	11:1
Money	Total man received	11:7
Money	Total 2 received	11:8
Money	Total amount in 4 bags	14:7
Money	Total income of man from rent of 5 houses, etc.	14:10
Money	Amount after some gained in trade	15:22
Money	Time up to 1822 since money used	16:23
Money	Amount man earned in year	19:7
Money	Family expenses for 1 year, 2 years	19:8
Money	Amount man earns	20:17
Money	Amount 100 men get	21:6
Money	Amount 27 men get	21:7

Subject Matter	Situation	Index
Money	Reducing dimes to cents	21:8
Money	Reducing dollars to dimes	21:9
Money	Reducing dollars to cents	21:10
Money	Reducing cents to mills	21:11
Money	Reducing dollars to cents	21:12
Money	Reducing dollars to mills	21:13
Money	Reducing dollars to mills	21:14
Money	Reducing dollars and cents to cents	21:15
Money	Reducing dollars and cents to cents	21:16
Money	Reducing dollars and cents and mills to mills	21:17
Money	Reducing dollars and cents and mills to mills	21:18
Money	Amount 400 men receive	22:2
Money	Amount garrison of men receive	23:11
Money	Amount army receives	24:14,15
Money	Amount needed to clothe army 1 year	24:21
Money	Interest	28:43-47
Money	Amount at simple interest	28:50
Money	Amount bankrupt pays on debt	28:51,52
Money	Amount left after some lost	29:2
Money	Number dollars owed	29:4
Money	Number dollars paid	29:5
Money	Total of debts	29:6
Money	Amount still owed	29:15

Subject Matter	Situation	Index
Money	Amount income spent and saved	31:31
Money	Amount one man gets when sum divided	31:37
Money	Amount left when man gives away one dollar	31:40
Money	Amount left when man lost 17 cents	31:41
Money	Amount of income saved	31:45
Money	Reduce shillings to dollars	32:5
Money	Reduce farthings to pence	32:6
Money	Subtract sums	32:49
Money	Reducing English money to higher denominations	33:20-35 34:36-40
Money	Reducing English money to higher units or to Federal money	35:70-85
Money	Find one half of $2.00	40:2
Money	Find part one sum is of another	44:6-12 44:18 44:21-23
Money	Find part one	45:24-30
Money	Find number farthings in a pound	45:31
Money	Find part one sum is of another	45:32-36
Money	Find part one sum is of anothor	46:60-67
Money	Reduce improper fraction of English money	47:8
Money	Reduce English money to higher units	47:9-11 47:14,15
Money	Reduce mixed numbers to fraction of unit	48:12,13
Money	Amount bankrupt pays	49:19,20
Money	A's share of prize	50:6
Money	Share each officer and sailor in prize	50:7
Money	Amount each gets when sum divided	53:65

Subject Matter	Situation	Index
Money	Reducing fraction of English money to lower denomination	54:82
Money	Reducing fractions of Federal money to lower denominations	55:103-105
Money	Reducing fractions of English money to lower denominations	55:106-108 55:110-116 55:118
Money	Reducing fractions of Federal money	55:112
Money	Each of 2 men's share of gain from trade	58:158
Money	Each of 3 men's share of gain from trade	58:159,162
Money	Lottery ticket	58:164
Money	Each of 4 creditors share of property	58:166
Money	Amount man's wages	59:10
Money	Amount bankrupt paid on debts	62:59-61
Money	Amount each man's share in prize	66:4,6
Money	Amount of prize taken by ship	72:18
Money	Amount man had before spending 1/2 and 1/3	75:60
Money	Amount found in bag	75:61
Money	Amount put to interest	78:130-137
Money	Amount debt now paid	79:138-140
Money	Difference between interest and discount on sums	79:141,142
Money	Amount debt still unpaid	85:8,9
Money	Find decimal one sum English money is of another	89:34-36
Money	Reduce decimal of English money to lower denominations	90:45,46 90:50 91:53
Money	Amount of commission	92:66,67

Subject Matter	Situation	Index
Money	Find insurance on ship and cargo	92:69
Money	Interest	93:79,80
Money	Rate per cent for different times	93:81-84
Money	Interest for given number of months	94:85-94
Money	Interest for given number of months and days	94:95-98
Money	Interest for given year, months, and days	94:99
Money	Principle and interest on note	94:100 95:101
Money	Interest on note	95:102
Money	Interest	95:103,104
Money	Interest	96:105,111
Money	Commission	96:112
Money	Share of each of 3 men	97:3
Money	Amount on tax	103:28-30
Money	Tax on dollar and amount man must pay	103:31,32
Money	Rate per cent bankrupt pays	104:41
Money	Rate of interest paid	104:43-46
Money	Value of English pound sterling in Federal money	104:47
Money	Reducing English money to Federal money	104:48-50
Money	Reducing Federal money to English	104:51-53
Money	Interest	105:55 106:56-72
Money	Amount last payment on note	106:73
Money	Amount due on note	106:74

Subject Matter	Situation	Index
Money	Amount of 3 notes and bills used to pay them	122:1
Money	Amount to support 207 families	136:1
Money	Amount not spent	137:1
Money	Amount given to one son more than another	138:1
Money	Number dollars paid second time	138:2
Money	Number pence in 132 farthergs	144:3
Money	Number dollars in 7464 shillings	145:2
Money	Number four pence in 3756 pence	146:1
Money	Amount given to 7 poor persons	157:6
Money	Number beggars given $1/5 each	158:2
Money	Amount paid 7 laborers	159:3
Money	A's share of lottery prize	162:2
Money	Each of 2 men's share of money gained in trade	162:4
Money	Divided between given number	175:1,2
Money	Amount of lottery prize	184:1
Money	Divided among 5 men	212:14
Money	Find fraction of sum of English money	212:20
Money	Amount paid for carrying given weight	214:42
Money	Amount to keep given number people given time	214:44
Money	Amount at compound interest	215:58
Money	Make table showing amount of $1.00 for 1-20 years	216:59
Money	Compound Interest	217:60,64
Money	Amount at Compound Interest	217:61,62, 217:65

Subject Matter	Situation	Index
Money	Amount at simple interest	217:63
Money	Amount at compound interest	218:66
Money	Compound interest	218:67,68
Money	Share of each in money gained trading	221:88,91
Money	Make a rule for double fellowship problems	222:92
Money	Amount due on 3 notes due different times	223:108
Money	Amount due on 4 notes due different times	224:109
Money	Amount due on note after discount allowed	224:110
Money	Amount of discount	224:111
Money	Present Worth of note due later without interest	224:112
Money	Selling price of note due later without interest	224:113
Money	Share of 2 of $50.00	224:114
Money	Number of crowns of those staked at cards each of three got	227:138
Money	Amount one man put into fellowship with 2 others	227:140
Money	Divided among 4	230:148
Money	Amount of 2 prizes	230:150
Money	Amount man spent	230:154
Money	Amount each of 2 put into fellowship	231:164
Money	Income and expenses of each of 2 men	232:178
Money	Sum gambler began to play with	233:180
Money	Reducing English to Federal money	235:199
Money	Reducing Federal to English money	235:200

Subject Matter	Situation	Index
Money	Reducing French to Federal money	235:201
Money	Reducing Federal to French money	235:202
Money	Reducing Dutch to Federal money	235:203
Money	Reducing Federal to Dutch money	235:204
Money	Reducing Italian to Federal money	235:205
Paper	Number hundredweight bought	70:52
Paper	Buying	41:15,19
Pasture	Cost divided between 3 men	58:165
Pasture	Cost divided between 2 men	71:70
Pasture	Share of rent each of 2 pays	22:87,89
Pendulum	Number times pendulum of clock swings in 1 hour, etc.	23:6
Pole	Length of part above water	64:14
Pole	Length	74:59
Potash	Amount bought	42:28
Potashes	Cost	87:47
Property	Total value of man's 5 farms, house, carriage and 2 horses	14:11
Property	Amount due on house, horses and carriage after 3 payments	30:22
Property	Amount gentleman had	72:9,10
Saltpetre	Duty on	93:73
Ship	Distance sails	24:13
Ship	Time to build and number of men	27:37
Ship	Insurance on ship and cargo	28:48
Ship	Time from Boston to Liverpool	35:90

Subject Matter	Situation	Index
Ship	Time sails given distance	42:32
Ship	Time sails around world	42:33
Ship	Part of selling price belonging to one man	52:48
Ship	Number times ship will sail her length in 1200 miles	53:56
Ship	Total value	72:7
Ship	Part sold and value of whole	74:54
Ship	Value of ship and cargo	74:55
Ship	Amount man's share of ship and cargo when he owns 1/15	97:8
Ship	Man's share	196:2
Ship	Value of whole	212:22
Stage	Time travels	41:17
Steeple	Height from shadow when height of staff and its shadow given	212:26
Stock	Part of stock of cotton manufactured one man owns	227:139
Tailors	Number to make clothes of a regiment	214:46
Tallow	Cost	52:53 56:135
Tankard	Weight	101:7
Tiles	Number to cover hearth	214:48
Timber	Number cubic feet in stick	234:186
Boards	Amount to cover house and cost	102:15
Boards	Amount to cover floors of this house	102:16
Shingles	Number bunches to cover roof of given house	102:17
Shingles	Number to cover roof of house	214:50

Subject Matter	Situation	Index
Timber		
Staves	Number bought	42:26
Staves	Cost	49:13 86:22
Time	Reducing minute and seconds to seconds	23:7
Time	Reducing hours and minutes to minutes	23:8
Time	Reducing days, hours, and minutes to minutes	23:9
Time	Reducing days, hours, minutes, and seconds to seconds	23:10
Time	Reduce years to seconds	26:22
Time	Reduce years, months, weeks, days, hours, minutes and seconds to seconds	26:23
Time	Time between 2 dates	26:24
Time	Time between 2 dates	26:25
Time	Time between 2 dates	26:26
Time	Number seconds in your age	27:27
Time	Number seconds from beginning of Christian era to 1822	27:28
Time	Man makes journey	29:35
Time	Days to do certain work	27:36
Time	Since man married	29:8
Time	Reduce time units to larger units	34:50
Time	Revolutionary war lasted	40:47
Time	War of 1812 ended	40:48
Time	Transit of Venus seen at Boston	40:49
Time	Part one time is of another	45:51-55 46:56-59 46:72-74

Subject Matter	Situation	Index
Time	Reduce improper fractions, etc., of time units to other units	47:16-22 48:14-17
Time	Reduce fractions of time units to lower units	55:91-94 55:111,120
Time	Days to do work	57:150,151 57:153
Time	To make journey	57:152
Time	To do work	58:157
Time	Man makes journey	69:18 74:56
Time	Men now given number acres	74:57
Time	What decimal of a day is 6 hours	89:24
Time	What decimal of a day is 13 hours 42 minutes 11 seconds	89:26
Time	What decimal of a day is 16 hours 25 minutes	89:25
Time	What decimal of an hour is 47 minutes	89:27
Time	What decimal of an hour is 38 minutes 47 seconds	89:28
Time	Reduce decimal of a day to hours, etc.	91:54
Time	Reduce decimal of an hour to minutes and seconds	91:55
Time	Number hours man travels 83 miles	97:34
Time	Number days for journey	101:11
Time	Number days to do given amount ditching	101:12
Time	Number weeks in 126 days	145:3
Time	Number years in given number days	148:1
Time	Number months laborer worked	155:1
Time	Cistern filled, one cock running in and one running out	212:27

Subject Matter	Situation	Index
Time	One traveler overtakes another	212:28
Time	Two men meet and distance each has traveled from different starting points	212:29
Time	Given sum gains as much interest as another sum	222:93-102
Time	Find equated time of payment of notes	222:103,104 223:105,107
Time	Find time when time past from midnight equals 5/11 of time to noon	225:116
Time	To do work	225:118
Time	For 2 men to mow field	225:119
Time	For 3 men to build wall	225:120
Time	Between 7 and 8 when hour and minutes hand are exactly together	232:170
Time	When time from noon is equal to 5/119 of time to midnight	232:171
Time	When 3/17 of time past from midnight equals 2/9 of time to noon	232:172
Time	Difference in time of 2 places from difference in longitude	235:193
Time	Time at Greenwich, England, when time at Boston given	235:194
Time	Time at Philadelphia when time at Rome given	235:195
Days	Number in year	14:5
Days	Number in 2 years, 3 months, 18 days	20:19
Hours	Number in 2 months, 3 days	19:12
Hours	Number in week	19:9
Minutes	Number in day	19:10
Minutes	Number in week	19:11
Minutes	Number in year	20:18

Subject Matter	Situation	Index
Time		
Year	Of Washington's death	16:25
Year	Of Franklin's birth	30:19
Years	Since first trading acted at Athens	16:26
Tobacco	Cost	20:44 22:1 24:1 27:30
Tobacco	Number boxes to hold	36:101
Tobacco	Cost	52:46 87:2
Tobacco	Buying and selling, find selling price	56:140
Tobacco	Weight in each of 42 boxes	66:7
Tobacco	Number boxes put into	68:5 156:2
Tobacco	Amount bought	101:5
Tobacco	Amount in each of 2 boxes	212:13
Snuff	Cost	27:29 73:33
Snuff	Amount bought	33:15
Trees	Number in orchard	13:2 14:4 17:11
Turpentine	Cost	24:9
Wages	of 234 men	135:2
Wall	Number men to build	57:148
Wall	Time to build	70:49
Wall	Rods given number build in given time	213:40
Wall	Time given number build given amount	214:43
War	Year American Revolution ended	16:24
Wheel	Times carriage wheel turns round from Boston to Providence	52:54

Subject Matter	Situation	Index
Wheel	Find circumference	233:181
Wheel	Find diameter	233:182
Wheels	Difference in number times forward and hind wheels of wagon turn around from New York to Boston	53:55
Weights	Reduce 1 hundredweight to pounds	25:4
Weights	Reduce hundredweight to grains	25:5
Weights	Reduce grains and pounds to pounds	25:6
Weights	Reduce hundred-weight and grains to pounds	25:7
Weights	Reduce hundredweight, grains, pounds to pounds	25:8
Weights	Reduce pounds to ounces	25:9
Weights	Reduce hundredweight to ounces	25:10
Weights	Reduce hundredweight, grains, pounds, ounces to ounces	25:11
Weights	Reduce apothecaries weight to lower unit	26:16
Weights	Reduce weight units to higher units	34:56-64
Weights	Find part 3 pounds is of 5 pounds	44:1
Weights	Find part 7 ounces is of 4 ounces	44:5
Weights	Find part one weight is of another	45:45-50 46:77
Weights	Reduce weights to higher units	47:12,13
Weights	Reduce mixed numbers to improper fractions	48:18-20
Weights	Reduce fractions of weight units to smaller units	55:95-99
Weights	Number 4 penny loaves to weigh 3/4 pound	70:39
Weights	Number 2 penny loaves to weigh $1\frac{1}{2}$ pounds	70:40
Weights	Number 6 penny loaves to weight 7/8 pound	70:41

Subject Matter	Situation	Index
Weights	Reduce given weights to decimal of a hundredweight	88:11
Weights	What decimal of a pound is 13 ounces	88:21
Weights	What decimal of 1 quarter is 17 pounds	88:22
Weights	What decimal of 1 quarter is 13 pounds 5 ounces	88:23
Weights	Reduce decimal of hundredweight to lower units	90:47-49
Weights	Reduce decimal of quarter to lower units	91:51-52
Weights	Divide given weight into 3 equal parts	212:15
Wood	Bartering wood for flour	36:103
Wood	Bartered for food, find amount money paid	39:42
Wood	Amount bought	40:11 41:22
Wood	Time supplies fire	47:1
Wood	Cost	61:43
Wood	Number cords in pile	102:20
Wood	Number feet of wood in load	102:21,22 102:23
Wood	Height of load to make cord	102:25
Wood	Amount in load	102:24
Wood	Number cords bought	202:1
Wood	Amount in load	229:142
Wood	Amount in pile	229:144
Wool	Cost	37:10 89:40
Wool	Weight in 3 packs	37:12
Work	Amount men can do	63:5
Work	Amount paid 2 men and boy	64:2

Subject Matter	Situation	Index
Work	Number days work for given money	98:35,36
Work	Part done by one of 3 men	232:168
	Number of arithmetic problems - Grand Total	1646

Table XIII

Frequency of Occurrence of Situations by Subject Matter

In Colburn's Sequel - 1828

Table

Frequency of Occurrence of

In Colburn's

Subject Matter	Situation	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Bought & Sold	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction
Age		10																	
Ages		5													2				
Alum												1							
Bankstock					2														
Beeswax												1							
Book												2							
Books												1						1	
Bricks																			
Candles			1									2							
Cannon Ball																	2		
Cargo																			
Cistern		1											2						
Cisterns		1																	
Clock Hammer																			
Cloth		11	11				2		10			45							
Carpet		2																	
Broadcloth							1					11							
Flannel		3																	
Linen												2							
Nankin												1							
Riband												2							
Clothing												2			1				
Coats																			
Hats																			
Coal		1	3									3							
Coal Mine																			
Cotton							1					1							
Cotton Manufactory					1														
Totals		34	15		3		4		10			74	2		3		2	1	

Situation by Subject Matter

Sequel

Height	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Total
																				10
																				7
																				1
										1							2			5
																				1
																				2
																				2
					2															2
					1															4
																				2
				2													1			3
													2							5
																				1
														1						1
					3					1							4			87
																				2
					1															13
																				3
																				2
																				1
																				2
					1															4
					3															3
					2															2
													1							8
																	1			1
																		6		8
																				1
0	0	0	0	2	13	0	0	0	0	2	0	0	3	1	0	0	8	6	0	0	183

Table

Frequency of Occurrence of

In Colburn's

Subject Matter	Situation	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Bought & Sold	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction
Distance		7													1				
Earth										1							4		
Estate		1																	
Farms																			
Food		2		1			1					7							
Beverages																			
Chocolate			1									2							
Cocoa			3									2							
Coffee							1		1			3							
Tea		2										6						1	
Butter		3					2					9							
Cheese			1																
Eggs			1																
Flour		5	11		1		2		6			24							
Fruit									1			2							
Apples			7																
Figs			2									3							
Lemons			2						1			1							
Orange																			
Oranges		1	4									2							
Peaches		2	1																
Pears			1																
Pineapple		1																	
Rasins			3									12							
Watermelon																			
Grain		5										3							
Barley		1										1							
Totals		30	37	1	1	0	6	0	9	1	0	77	0	0	1	0	4	1	0

Situation by Subject Matter

Sequel

Height	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Taxes	Time	Times	Title When	Travelled	Value	Weight	Width	Total
								1								14		1		24
																				5
											11									12
																		1		1
					2								3							16
																				3
																				5
																		1		6
																				9
																				14
																				1
																				1
					2					2	11		2							66
																				3
					3						2						1			13
																				5
																				4
											1						1			2
																				7
																				3
																				1
											1									2
																		2		17
											1									1
										1	1		1							11
																				2
					7			1		3	28		6			14	2	5		234

Table

Frequency of Occurrence of

In Colburn's

Subject Matter	Situation Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Bought & Sold	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction
Food																		
Grain																		
Corn	8	5				1					7							
Oats	7	1									1							
Rye		3									2							
Wheat	7	3				1					7							
Meal	1																	
Meat		1									1							
Beef		3									10							
Fish		2									3							
Pork		2						1			2							
Veal											1							
Molasses	1	1				1		7			16							
Potatoes		3				1					3							
Rice											3							
Salt						1		1			1							
Spices	1																	
Sugar	2	6				1		3			23							
Vinegar											1							
Fountain																		
Glass	1																	
Goods				1		1		20		1	6				1		1	
Greyhound																		
Guns																		
Hay	4	2									14							
Hemp											2							
Hops											2							
Totals	32	32	0	1	0	7	0	32	0	1	105	0	0	0	1	0	1	0

Sequel

Height	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Total
					1						4						2			28
					1								3							13
					4															9
					5						1						1	1		26
																				1
																				2
																				13
			1																	6
																				5
																				1
																	1			27
																				7
										1										4
																				3
																				1
										1							1	1		38
																				1
													1							1
																				1
				2																33
					1															1
					1															1
					2													4		26
																				2
																		1		3
0	0	0	1	2	15	0	0	0	0	2	5	0	4	0	0	0	5	7	0	253

Table

Frequency of Occurrence of

In Colburn's

Subject Matter	Situation	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Bought & Sold	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction
House								1											
Indigo			1				1					1							
Inhabitants															2		1		
Laborer																			
Laborers																			
Land		3										2							
Lime																			
Liquors																			
Beer		1										2							
Brandy		1	4				1	5				14							
Cider		4	8									9							
Gin												7							
Rum								3				3							
Wine		9	10				1	7				18						1	
Livestock												4							
Cows												3							
Horse																			
Horses												1							
Ox												3							
Oxen												5							
Sheep												5							
Logwood												1							
Measure						10							13						
Measures		2				8						2	6				2	32	
Men																			
Totals		18	25	0	0	18	3	1	15	0	0	80	19	0	2	0	3	1	32

Situation by Subject Matter

Sequel

Height	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Total
											2									3
																				3
					5															8
													1							1
					1															1
																			1	6
										1										1
													2							5
								1		2										28
					2								4							27
																				7
					1												1			8
				1	2			2		4	1						1			57
					5															9
																	1			4
																1				1
																1				2
																				3
																				5
					2															7
																				1
								1												24
								74												126
					8								2			1				11
0	0	0	0	1	26	0	0	78	0	7	3	0	9	0	0	3	3	0	1	348

Table

Frequency of Occurrence of

In Colburn's

Subject Matter	Situation	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Bought & Sold	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction
Metals																			
Copper												2							
Gold																			
Iron		2	7									20							
Lead												3							
Silver												4							
Steel			2																
Money		60									3				3	1			39
Ochre			1																
Paper			2																
Pasture																			
Pendulum																			
Pole																			
Potash			1									1							
Property		2		1															
Saltpetre																		1	
Ship					1												1		
Stage																			
Steeple																			
Stock																			
Tailors																			
Tallow												2							
Tankard																			
Tiles																			
Timber													1						
Totals		64	13	1	1	0	0	0	0	0	3	32	1	0	3	1	1	1	39

Situation by Subject Matter

Sequel

Height	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Total
																				2
																		2		2
										1										30
																	1	1		5
					2												3	2		11
					1															3
	1	67			1	2	9	97			25	5	1							314
																				1
																				2
									4											4
														1						1
			2																	2
																				2
																	1			4
																				1
	1										3		5				3			14
													1							1
1																				1
											1									1
					1															1
																				2
																		1		1
					1															1
																				1
1	2	67	2	0	6	2	9	97	4	1	29	5	7	1	0	0	8	6	0	407

Table

Frequency of Occurrence of

In Colburn's

Subject Matter	Situation	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Bought & Sold	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction
Timber																			
	Boards	2											1						
	Shingles	2																	
	Staves		1									2							
Time		16													3				17
	Days																		
	Hours																		
	Minutes																		
	Year																		
	Years	1																	
Tobacco		1	1						1			6							
	Snuff		1									2							
Trees																			
Turpentine												1							
Wages		1																	
Wall		1																	
War																			
Weights																			12
Wheels										1				1	1				
Wood		8	2				2					1							
Wool												2							
Work		3										1							
	Totals	55	5	0	0	0	2	0	1	1	0	15	1	1	4	0	0	0	29

Situation by Subject Matter

Sequel

Height	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Total
																				3
																				2
																				3
		14						35							8	8				101
								2												2
								2												2
								3												3
															2					2
																				1
					3													1		13
																				3
					3															3
																				1
																				1
													2							3
															1					1
					3			34			1									50
														1						4
	1												1							15
																		1		3
											1									5
0	1	14	0	0	9	0	0	76	0	0	2	0	3	1	11	8	0	2	0	221

GRAND TOTAL 1646

Table XIV

This Table is a Summary of Table XIII
According to Specific Situations.

Amount Situations

	Totals
Amount or quantity	213
Difference	13
Friction	100
Number	76
Shares	67
Grand Total	469

Measuring Situations

	Totals
Area	18
Circumference	2
Cubic contents	23
Diameter	1
Distance	10
Height or depth	1
Length	3
Rate	9
Reduce	252
Traveled	23
Weight	27
Width	1
Grand Total	370

Money Situations Not Buying or Selling

	Totals
Fellowship	4
Insurance	3
Interest	81
Loss	5
Present worth	2
Tax	5
Value	27
Grand Total	127

Buying Situations

	Totals
Amount bought	127
Amount of change	2
Bought	1
Cost	383
Grand Total	513

Selling Situations

	Totals
Amount sold	6
Selling price	15
Grand Total	21

Buying & Selling Situations

	Totals
Barter	22
Bought and sold	67
Commission	4
Discount	2
Duty	5
Grand Total	100

Time Situations

	Totals
Time	32
Times	3
Time when	11
Grand Total	46

Table XV

Showing the Largest Number of Places in Given Figures of the Problems as Stated but not Solved in Colburn's Sequel.

Number of Places	Frequency	Percentage
0 Figures	9	.5
1 Place	268	16.2
2 Places	678	41.1
3 Places	327	19.8
4 Places	198	12.0
5 Places	113	6.8
6 Places	35	2.1
7 Places	12	.7
8 Places	3	.2
9 Places	3	.2
10 Places	0	.0
Total	1,646	99.6

Table XVI

Showing the Number of Places in the Decimals as stated but not Solved In Problems of Colburn's Sequel

Decimal Places	Frequency	Percentage
1 Place	10	2.6
2 Places	327	84.0
3 Places	46	11.8
4 Places	5	1.3
5 Places	1	.26
Grand Total	389	99.96

Table XVII

Showing the Total Number of Fractions Occurring In All Problems as Stated but not Solved in Colburn's Sequel.

Fractions	Frequency	Percentage*
1/2	57	9.4
1/4	32	5.2
3/4	39	6.4
1/3	30	4.9
2/3	26	4.2
1/5	23	3.7
2/5	17	2.8
3/5	38	6.2
4/5	14	2.3
1/6	5	.8
5/6	7	1.1
1/7	9	1.4
2/7	14	2.3
3/7	15	2.4
4/7	9	1.4
5/7	2	.4
11/7	1	.2
15/7	3	.5
16/7	2	.4
28/7	1	.2
1/8	17	2.8
3/8	34	5.6
5/8	20	3.3
7/8	11	1.8
5/8	1	.2
1/9	2	.4
2/9	5	.8
4/9	4	.6
5/9	6	.9
7/9	5	.8
Fractions having denominators		
from 10-24 inclusive	76	13.0
" 25-49 "	23	4.0
" 50-99 "	21	3.4
" 100-199 "	9	1.4
" 200-299 "	5	.8
" 300-399 "	1	.2
" 400-499 "	4	.6
" 500-599 "	1	.2
" 600-699 "	1	.2
" 700-799 "	0	
" 800-899 "	1	.2
" 900-999 "	4	.6
" 1000-9999 "	6	.9
Carried Forward	601	97.9

*Percentage column at the right shows the percentage of fractions under each heading, based on the total number.

Fractions	Frequency	Percentage*
Brought Forward	601	97.9
Fractions having denominators		
from 10000-24999 inclusive	1	.2
" 25000-49999 "	2	.3
" 50000-999999 "	1	.2
" 1000000-20000000 "	1	.2
	606	98.8

*Percentage column at the right shows the percentage of fractions under each heading, based on the total number.

Table XIX

Number of Problems, Distributed on
The Basis of the Processes Used
In Colburn's Sequel

Processes	Frequency	Percentage
Addition	76	4.7
Subtraction	56	3.4
Multiplication	418	25.3
Division	420	26.1
Addition and Subtraction	10	.5
Addition and Multiplication	65	4.0
Addition and Division	10	.5
Addition, Subtraction and Multiplication	20	.2
Addition, Subtraction and Division	1	.05
Addition, Multiplication, Division	20	.2
Subtraction, Multiplication and Division	35	2.1
Addition, Subtraction, Multiplication, Division	2	.02
Multiplication and Division	198	12.0
Subtraction and Multiplication	26	1.5
Subtraction and Division	5	.3
Subtraction and Compound Division	8	.4
Compound Addition	9	.5
Compound Subtraction	12	.7
Compound Multiplication	121	7.2
Compound Division	93	6.0
Compound Addition, Compound Subtraction, Compound Multiplication	2	.1
Compound Addition, Compound Multiplication, and Compound Division	1	.05
Compound Subtraction and Compound Multiplication	6	.3
Compound Subtraction and Compound Division	3	.2
Compound Multiplication and Compound Division	27	2.0
No Process	2	.1
Total	1,646	98.42

Table XIX

Problems and Examples Already Solved in Colburn's Sequel

Number problems and examples having answers given.....	12
Number problems and examples worked.....	138

Table XX

Analysis of Pages in Colburn's Sequel - 1828

	Pages Numbered	Inches	Pages
Introduction	1-10		
Title Page			
Name of book		3.125	.52
Author		.50	.08
Publisher		1.00	.17
Copyright		2.50	.42
Recommendations		5.25	.88
Preface		20.375	3.39
Table of Contents		8.00	1.33
Index to Particular Subjects		4.5	.75
Arithmetic Text	11-235	1330.28	221.71
Tables Coin, Weights, and Measures	236-239		3.60
Reflections on Mathematical Reasoning	240-245		5.59
Improved School Books	246-250		4.60
Blank Pages			7.96
			250.00

Analysis of Pages in Colburn's Sequel Already Included In Table

		Pages
Tables	Arithmetic	10.56
Illustrations		.14

CHAPTER III

Greenleaf's National Arithemtic

By Benjamin Greenleaf

Published By

Robert S. Davis and Company, 1868

Table XXI

Topic or Processes under which Problems and Examples are classified in Greenleaf's National Arithmetic 1868

Topic	Number of Examples	Number of Problems
Notation	8	0
Numeration	59	0
Addition	67	26
Subtraction	56	30
Multiplication	61	45
Division	87	35
Fractions	14	39
Contractions in Multiplication and Division	32	0
Miscellaneous	5	41
U. S. Money	19	48
U. S. Money Analysis	0	31
U. S. Money Bills and Ledger Accounts	4	5
Compound Numbers Reduction	93	324
Properties of Numbers	39	4
Common Fractions Reduction	64	37
Common Fractions Addition	34	7
Common Fractions Subtraction	62	8
Common Fractions Mu;tiplication	39	28
Common Fractions Division	54	10
Common Fractions G.C.D. & L.C.M.	7	3
Common Fractions miscellaneous	4	15
Common Fractions Prob. by Analysis	0	81
Decimal Fractions Numeration	104	33
Percentage	7	6
Simple Interest	0	95
Partial Payments	0	8
Compound Interest	0	13
Discount	0	7
Percentage: Commission Brokerage and Stocks	0	23
Percentage: Banking	0	13
Percentage: Insurance	0	6
Percentage: Custom-House Business	0	8
Percentage: Taxes	0	10
Percentage: Equation of Payments	0	18
Ratio	5	0
Proportion	0	37
Compound proportion	0	18
Profit & Loss	0	30
Partnership	0	16
Currencies	0	35
Duodecimals	11	5
Carried Forward	933	1,198

Topic	Number of Examples	Number of Examples
Brought Forward	933	1,198
Involution	14	0
Evolution	46	42
Arithmetical Progression	0	14
Annuities at Simple Interest & Compound Interest	0	16
Geometrical Progression	0	18
Alligation	0	13
Permutation	0	4
Mensuration	0	54
Miscellaneous Problem	3	62
Metric System	21	24
Total	1,017	1,445

Table XXII

Problems listed in Relation to Subject Matter and Situation in the "Introduction to the National Arithmetic on Inductive System combining the Analytic and Synthetic Methods in which the principles of the science are fully explained and illustrated. Designed for Common Schools and Academies by Benjamin Greenleaf, 1868.

Table XXII

Problems listed In Relation to Subject Matter and Situation in Benjamin Greenleaf's Arithmetic for Common Schools and Academies - 1868.

Subject Matter	Situation	Index
Adzes	Cost	158:16
Age	Number minutes in age of certain person at given time	323:49
Age	Of John Quincy Adams	118:4
Age	Of Andrew Jackson	118:5
Ages	Sum of ages of 3 boys	120:4
Animals	Cost of oxen, cows, sheep and horses	65:10
Animals	Buying and selling oxen, sheep, cows, find gain	66:23
Animals	Buying and selling sheep, cows and oxen find gain	67:36
Animals Horse	Cost of horse, wagon and harness	17:16
Horse	Buying and selling, find gain	27:27
Horse	Selling price	244:30
Horse	Selling price	250:7
Horse	Gain per cent if sold at different price	252:3
Horse	Buying and selling, find loss per cent	253:1
Horse	Buying and selling, find gain per cent	253:2
Horse	Buying and selling, find loss per cent	253:3
Horse	Buying and selling, find selling price of horse and gain per cent	253:8
Horse	Buying and selling, find cost	324:62

Subject Matter	Situation	Index
Animals Horse	Gain per cent man intends to make	323:55
Horses	Buying and selling span of horses, find loss	28:8
Horses	Number can eat given amount of hay	243:9
Ox	Weight by comparison of girth to another whose girth and weight are given	287:5
Ox	Weight of whole after killed	23:50
Oxen	Cost	39:9
Sheep	Number bought	19:10
Sheep	Selling price	45:2
Ball	Weight from comparison to another given	286:3
Bell	Weight from comparison to another given	287:7
Books	Cost of 2	17:13
Books	Cost of Arithmetics and Bibles	68:42
Books	Probability of replacing 12 books on library shelf in same order originally were	305:3
Bottles	Number to hold 2 hogshead wine	108:41
Box	Cubic contents	170:18
Box	Cubic contents and number square feet of plank required to build box	323:57
Box	Depth of grain box holding given amount	285:2
Boxes	Cubic contents	169:2
Bricks	Number to build given house	324:58
Bricks	Number takes to build given wall	319:7
Bricks	Number takes to build given house	319:8
Capitol	Cost of Capitol at Washington	180:23
Carding Mill	Value of a fraction of it	177:21

Subject Matter	Situation	Index
Cellar	Depth of cellar having dimensions all alike but contents equal to another given	285:3
Chaise	Buying and selling chaise, harness and horse, find gain	68:45
Chaise	Cost	323:54
Chaise	Selling price	244:32
Chaise	Cost	251:3
Chalk	Cost	156:11
Circle	Diameter of circle from comparison to a given one	279:4
Cistern	Time 3 cocks empty it	244:37
Cistern	Length of side of cubical cistern containing given amount	285:1
Clay	Cost of 7 tons	77:4
Cloth	Cost of 5 pieces	23:52
Cloth	Cloth cost	41:1
Cloth	Cost of each of 15 pieces	54:1
Cloth	Cost of fraction of yard	59:23
Cloth	Cost of 16½ yards etc.	60:47
Cloth	Cost per yard	61:55
Cloth	Amount of change when buying	65:12
Cloth	Buying and selling, find gain or loss	68:38
Cloth	Cost per yard	75:1
Cloth	Selling price per yard	75:4
Cloth	Cost per yard	76:7
Cloth	Amount bought	78:28
Cloth	Cost	90:9,10
Cloth	Cost	109:53

Subject Matter	Situation	Index
Cloth	Amount in 3 pieces	119:8
Cloth	Amount left after 2 garments made	121:28
Cloth	Cost	122:14
Cloth	Cost of 24 yards	123:1
Cloth	Amount of 132 seamen's garments	124:6
Cloth	Amount to make 347	125:6
Cloth	Cost per yard	126:14
Cloth	Selling price per yard	127:1
Cloth	Cost	159:7
Cloth	Amount needed to line given amount of cloth	162:9
Cloth	Part of piece the part cut off was	174:8
Cloth	Cost	176:9
Cloth	Cost of fraction	177:25
Cloth	Cost	177:30 178:33
Cloth	Number bales bought	179:10
Cloth	Cost	179:48
Cloth	Value of part unsold	180:30
Cloth	Cost	193:14
Cloth	Amount bought for suit	195:12
Cloth	Amount for one lady's dress	127:5
Cloth	Amount for one sailor's garment	128:6
Cloth	Amount for one garment	128:6
Cloth	Bartered for sugar, find balance received	129:7
Cloth	Cost	157:10

Subject Matter	Situation	Index
Cloth	Cost	176:1
Cloth	Cost	176:14
Cloth	Cost	178:42
Cloth	Cost	193:4
Cloth	Commission for buying	219:5
Cloth	Advalorem duty	226:1
Cloth	Cost	244:25
Cloth	Selling price	244:31
Cloth	Gain buying and selling	249:3
Cloth-	Buying and selling, find selling price to gain 2%	253:4
Cloth	Buying and selling, find selling price to gain 12%	253:9
Cloth	Yards needed to cover sides of a given pyramid	315:1
Cloth	Gain if sold for certain price	319:11
Cloth	Cost	320:16
Cloth	Cost	322:37
Cloth	Amount bartered for given amount of sugar	322:38
Cloth	Buying and selling, find selling price per yard to gain $25.00	330:45
Cloth	Buying and selling, find price should have been sold to gain 10%	324:63
Cloth		
Calico	Cost per yard	135:7
Canvas	Cost	34:19
Carpet	Amount needed for given room	109:49
Carpet	Width to fit each of 3 rooms	138:6
Carpet	Cost	180:22

Subject Matter	Situation	Index
Cloth Silk	Cost of 6 skeins silk thread	60:41
Silk	Amount needed for 72 dresses	124:5
Silk	Cost when 10 yards bought by geometrical progression	297:9
Velvet	Cost	177:29
Velvet	Amount to buy 100 yards calico	244:26
Clothing	Total cost of boots and coat and vest	17:12
Clothing	Difference in price of boots and shoes	26:8
Clothing	Cost of coat vest, pantaloons and boots	72:9
Clothing	Cost of hat, coat, boots and umbrella	72:12
Clothing	Cost of dress, shawl, bonnet, shoes and change left from $50.00	73:13
Clothing	Cost of bill of hose, boots, shoes, and gloves	80:5
Clothing	Cost of coat, vest, pantaloons, surtout	110:1
Clothing Boots	Cost	34:12
Boots	Cost of 4 pairs, etc.	60:42
Gloves	Cost per pair	77:12
Shoes	Number pairs taken to exchange for 7 pairs of boots	34:17
Shoes	Commission for buying	220:3
Shoes	Buying and selling, find cost	251:5
Coal	Amount bought	78:24
Coal	Cost	158:19
Coal	Cost	177:28
Coal	Cost	178:38

Subject Matter	Situation	Index
Coal	Cost	243:12
Cotton	Gain each of 3 merchants made speculating on cotton	323:56
Distance	Man travels in 9 days	122:15
Distance	Moon moves in 10 days	123:20
Distance	Man travels in 30 days	124:3
Distance	Man travels in 38 days	125:4
Distance	Man travels per day	126:15
Distance	Man travels per day	127:3 128:4
Distance	Moon moves in 1 day	127:20
Distance	Man has left to travel from Boston to mouth of Columbia River	129:3
Distance	Man has left to travel from Vera Cruz to Mexico City	129:5
Distance	Men traveling around an island are at end of 10 days	129:8
Distance	Man travels in given time	159:9
Distance	Man travels	159:10
Distance	Difference between 2 men traveling towards each other	175:6
Distance	Man travels	242:7
Distance	Amount after 3 payments	32:1
Distance	Difference in number miles 2 men traveled	27:29
Distance	Steam Engine runs in 4 hours, etc.	35:23
Distance	Earth turns on axis in 7 hours, etc.	35:24
Distance	Man walks in 8 hours, etc.	35:26
Distance	Man travels in 365 days	40:13
Distance	Difference in distance from earth of Mars and Venus	32:41

Subject Matter	Situation	Index
Distance	Number miles man walks per hour	45:11
Distance	Sound moves in 1 minute	42:8
Distance	Number spaces given distance divided into	61:57
Distance	Man walked in 78 days at 27 miles per day	65:7
Distance	Man has left to be walked	65:8
Distance	Jupiter's east of the sun	121:29
Distance	Jupiter must move in orbit to be in same longitude as a certain star	121:30
Distance	Man can travel in given time	243:17
Distance	Dog must run to catch fox	243:18
Distance	Man travels	247:11
Distance	Man has to travel to visit 3 neighbors and return when distance of each house from central point is given	278:7
Distance	Length of diagonal distance across given room	278:8
Distance	Daily increase in distance man travels by arithmetic progression	288:4
Distance	Traveled while setting out 100 fruit trees in a circular orchard found by arithmetic progression	290:3
Distance	Man traveled on last day of journey found by arithemtic progression	292:2,3
Distance	Moon must move to be in conjunction with certain star	323:50
Distances	Sum of 4	119:10
Distances	Difference of 2	319:4
Drugs	Weight of mixture of rhubarb, cantharides and opium	119:2
Factory	Insurance premium on cotton factory and its machinery and actual loss of insurance company if destroyed	225:26

Subject Matter	Situation	Index
Fence	Difference in length of measurement of 3 different people	120:26
Fence	Length to enclose circular garden	310:2
Field	Sale of square field equal in area to a round field	311:1,2
Field	Sale of square field inscribed in circle	312:2
Floor	Length of floor in given aisle	268:1
Floors	Difference in areas	308:2
Food	Cost	17:11
Food	Cost of 500 barrels flour, 4700 pounds cheese and 15 barrels salmon	66:18
Food	Cost of tea, butter, lemons, sugar and dates	72:13
Food	Equated time of payment for food when partial payments have been made	234:4
Food	Buying and selling which of 2 men make greater % of gain on buying and selling flour and coffee	253:6
Food	Commission for selling	219:6
Food		
Beverages		
Ale	Cost	100:6
Beer	Cost	100:5
Beer	Cost	177:31
Coffee	Cost of $5\frac{1}{2}$ pounds	60:46
Coffee	Cost per pound	60:49
Coffee	Cost	179:12
Coffee	Value	193:1
Coffee	Selling price	250:8
Milk	Cost	34:14
Tea	Value of 17 chests Souchong tea	74:9

Subject Matter	Situation	Index
Food		
Beverages		
Tea	Cost per pound	76:6,9
Tea	Cost	188:20
Tea	Cost	243:11
Tea	Value of pound of tea composed of mixture at different prices	300:1
Tea	Amount of each at 4 different prices to mix to get 180 pounds worth 45¢ per pound	304:1
Tea	Cost of tea bartered for sugar	322:47
Wine	Number barrels in 6 half barrels	60:37
Wine	Cost of 7 hogsheads at 5 cents a pint	99:5
Wine	Amount not leaked out	154:17
Wine	Cost of temperance wine	193:7
Wine	Cost of number of gallons	322:36
Bread	Each of 600 soldiers' share	56:1
Bread	Weight of loaf	243:21
Butter	Number firkins in 8 half firkins, etc.	60:38
Butter	Cost of 4½ pounds	60:44
Butter	Cost per pound	76:8
Butter	Selling price	78:17
Butter	Number pounds to buy given amount of cheese	243:23
Cakes	Number girl had after losing one	26:4
Fruits		
Apples	Number boy had	17:10
Apples	Number bushels to equal value of 12 barrels flour	34:18
Apples	Fractional part of	58:13,14

Subject Matter	Situation	Index
Food		
Fruits		
Apples	Cost	59:31
Apples	Cost of 78 barrels	66:17
Apples	Cost per barrel	76:5
Apples	Cost of 5 bushels	77:3
Apples	Selling price	180:21
Apple	Weight by comparison to another given	287:8
Cherries	Cost	34:4
Currants	Cost	34:7
Oranges	Difference in number John and Sister have, number Thomas had after giving some away	25:1 26:2
Oranges	Difference in number 2 boys have	26:7
Oranges	Number each of 5 received	45:4
Pears	Number 2 boys have	16:1
Raisins	Cost	34:10
Raisins	Cost per pound	45:10
Grain	Amount 1 acre produces	127:24 128:5
Grain	Smallest cost at which several kinds could be bought at given price per bushel and number of bushels of each kind	168:4
Grain	Amount given number horses eat in given time	247:9
Grain	Value per bushel of mixture of grains worth different prices	300:3
Grains	Number bushels of each of 4 kinds of grain to mix to have mixture worth 70¢ per bushel	302:2
Grains	Amount of oats, peas, and beans to mix with 30 bushels corn to sell mixture for $1.25 per bushel	303:2

Subject Matter	Situation	Index
Grain	Amount of wheat, rye and chaff to make mixture of 100 bushels worth £1.80 per bushel	304:2
Grain	Amount bartered for salt	322:39
Grain		
Flour	Cost	34:2
Flour	Cost	36:15
Flour	Cost per barrel	36:15
Flour	Number pounds bought	45:9
Flour	Fractional parts of barrel	58:15
Flour	Cost of fraction of barrel	59:26
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Subject Matter	Situation	Index
Measures		
Wine	Reduce given measure to gills	99:3
Wine	Reduce gills to tuns	99:4
Wine	Reduce given measure to gills	108:27
Wine	Reduce given gills to hogsheads	108:28
Wine	Reduce fractions to fraction of higher unit	172:9
Wine	Reduce denominate number to a fraction of a hogshead	173:6
Wine	Reduce fraction of hogshead to lower units	173:7
Men	Number buying township	53:41
Men	Number discharged from work	244:27
Men	Number soldiers to eat given amount wheat in given time	247:7
Men	Number on each side to arrange given number men in square	276:1
Metal	Value of cubical piece from comparison to one given.	286:2
Metal		
Copper-Sheathing	Advalorem duty	226:2
Copperas	Buying and selling, find gain or loss	67:37
Copperas	Cost	156:12
Copperas	Amount bought	162:13
Gold	Total weight	119:1
Iron	Amount bought	78:27
Iron	Cost of 360 tons	123:2
Iron	Cost 379 hundredweight	124:1
Iron	Amount bartered for copper ore	125:8

Subject Matter	Situation	Index
Metal		
Iron	Cost per ton	127:2
Iron	Cost of one hundredweight	128:1
Iron	Amount bartered for 1 ton of copper ore	128:8
Iron	Bartered for flour, find amount iron sold to axe manufacturer	130:9
Iron	Cost	178:44
Iron	Cost	179:15
Iron	Value of a part	180:27
Iron	Bartered for coffee, find cash paid and value of coffee	180:28
Iron	Advalorem duty on Russian iron	226:3
Lead	Cost	89:8
Lead	Cost	125:3
Lead	Cost per ton	128:3
Lead	Advalorem duty	226:4
Lead	Cost	243:13
Silver	Amount left after plate made	119:5
Silver	Amount unwrought	120:27
Silver-tankard	Cost per ounce and per pound	108:44
Silver-spoons	Weight of 12	123:18
Silver-spoons	Weight of each	127:18
Money	Amount given to 4 children	17:14
Money	Number cents Daniel had after giving 3 to Mary	26:5

Subject Matter	Situation	Index
Money	Amount left after giving away some and paying debt	27:30,31
Money	Amount not lost	29:1
Money	Amount man gave daughter	29:10
Money	Amount man spent	31:32
Money	Difference in debts of New York and Boston	32:39
Money	Reducing English money	35:20
Money	Reducing	34:8
Money	Amount paid army when each gets $109.00 yearly	40:11
Money	Amount of expenses of Massachusetts Legislature in 109 days	40:16
Money	Equal shares of 8 boys	44:1
Money	Earnings of man per day	45:6
Money	Equal shares of 6 men	46:1
Money	Equal shares of each of 7 children	49:1
Money	Equal shares of each of 12 children	49:23
Money	Equal shares of 8 from sale of Cuban plantation	49:25
Money	Equal shares of prize	49:26
Money	Reducing shillings to dollars	49:31
Money	Equal shares of 19 sons	50:6
Money	Divided equally among given number men	53:36
Money	Divided equally among 10 men	55:1
Money	Fractional part of money found not given away	58:19
Money	Number eighths of a dollar in $2 1/8	60:35

Subject Matter	Situation	Index
Money	Amount remaining due on price of house, carriage, and span of horses	67:31
Money	Amount of steel due after paying goods on account	68:44
Money	Reduce dollars to cents and mills	70:1
Money	Reduce mills to cents and dollars	70:1
Money	Reduce to higher or lower denominations	71:1-8
Money	Amount of change after paying several bills	73:11,14
Money	Reducing pence to farthings	83:1
Money	Reducing shillings to pence	83:2
Money	Pounds to shillings	83:3
Money	Reducing farthings to pence	83:4
Money	Reducing pence to shillings	83:5
Money	Reducing shillings to pounds	83:6
Money	Reducing sum of English money to farthings	83:1
Money	Reducing farthings to pounds	84:2
Money	Reducing sum to pence	84:3
Money	Reducing farthings to higher denominations	84:4
Money	Reducing sum to farthings	84:5
Money	Reducing farthings to higher denominations	84:6
Money	Reduce to lower units	107:1,3
Money	Reduce to higher units	107:2,4
Money	Amount in house	109:58
Money	Amount given to girl	154:18
Money	Amount of estate each of 7 children receive	161:14
Money	Shares when divided	162:9,10 162:12

Subject Matter	Situation	Index
Money	Value of fraction of a dollar	162:11
Money	Reduce fraction of a pound to fraction of a farthing	170:1 171:2
Money	Amount left after giving away some	170:15
Money	Reduce fraction to higher unit	171:1
Money	Reduce fraction of a shilling to fraction of a penny	171:3
Money	Reduce fraction of a pound to lower units	172:1
Money	Reduce denominate numbers to fraction of a pound	173:1,2
Money	Sum of denominate numbers	174:1,2
Money	Difference of 2 fractions of a pound	175:1
Money	Find fractional part	176:5,6
Money	Amount man had in bank	180:29
Money	Reduce denominate numbers to a decimal of higher denomination	191:1 192:2
Money	Reduce decimal to whole numbers of a lower denomination	192:1,2
Money	Amount left after 10% lost	195:9
Money	Amount left after giving parts of legacy to wife, sons, and daughters	195:11
Money	Amount 12 men spend in year	247:8
Money	Each of 2 men's share of gain in a partnership	254:1
Money	Each of 3 men's share of gain made in a partnership	255:2
Money	Each of 3 men's share of the dividend of bankrupt's estate	255:3
Money	Each of 4 men's share of dividend of bankrupt's estate	255:4

Subject Matter	Situation	Index
Money	Three men in partnership, one puts in 100 barrels flour and takes 1/3 of gain for his share. Find part of gain each of 2 get and value of the flour per barrel	255:5
Money	Each of 2 men's share of gain in partnership when money put in for unequal times	255:1
Money	Each of 3 men's share of gain from money in partnership unequal times	256:2,3
Money	Shares of 2 men of rent of horse and chaise when one rode only part of the way	256:4
Money	Find amount one of 2 partners put into partnership 3 months after starting to be able to share equally in the gain	257:5
Money	Find amount of stock each of 3 men put into a partnership when the time money was in and share of gain of each is given	257:6
Money	Find share of gain when 3 men put money in partnership unequal lengths of time	257:7
Money	Find amount each of 2 men put into partnership when time money was in and amount of gain each is given	257:8
Money	Find share of gain of each of 2 when money put into partnership unequal lengths of time	257:9
Money	Shares of each of 3 men of money received for building a railroad	257:11
Money	Reduce New England currency to United States money	259:1 260:2
Money	Reduce New York currency to United States money	260:3
Money	Reduce Penn. currency to United States money	260:4
Money	Reduce Southern Carolina currency to United States money	260:5
Money	Reduce canada currency to United States money	260:6
Money	Reduce English currency to United States money	260:7

Subject Matter	Situation	Index
Money	Reducing U. S. money to old State currencies	260:1,2 261:3-7
Money	Reducing foreign currency to U. S. money	261:1,3,5
Money	Reducing U. S. money to foreign currencies	261:2,4,6
Money	Interest	321:24
Money	Amount due at compound interest on note having 5 partial payments	321:26
Money	Two men in fellowship, find amount one of them put in from his share of the gain	321:33
Money	Find principle of note	322:34
Money	Find rate percent at which money was lent	322:35
Money	Shares of two brothers	324:59
Money		
Annuity	Amount for given time	293:2,3,4
Annuity	Amount at compound interest	299:1-7
Annuity	Difference in annuities received by 2 boys	299:8
Annuity	Amount girl received when 21 years old	299:9
Bill of Exchange	Commission of broker	219:7,8,9
Bill	Cost of bill of exchange in New York	262:2
Bill	Cost of bill of exchange on Burlington, Iowa	263:3
Bill	Cost of bill of exchange on Buffalo	263:4
Bill	Cost of bill of exchange on England	263:1
Bill	Cost of bill of exchange on England	264:2,3
Bill	Find face of bill of exchange on England which can be bought for given sum	264:1 265:2,3
Bill	Cost of bill of exchange on France	265:1,2,3

Subject Matter	Situation	Index
Money		
Bill	Find face of bill on France purchased for given sum	266:1,2,3
Debt	Amount still due	119:4
Drafts	Cost	262:1
Drafts	Cost	263:5
Earnings	Amount of man's earnings	34:15
Earnings	Amount of man's earnings	33:1
Earnings	Of 10 men in 16 days	35:22
Fine	Amount of thief's fine	323:53
Interest	Amount not lost	195:13
Interest	Simple interest	197:1
Interest	Simple interest	198:2-9
Interest	Simple interest	199:1-9
Interest	Amount at simple interest	200:10-13
Interest	Simple interest	200:14-20 200:1
Interest	Simple interest	201:1-13 200:15,16
Interest	Amount at simple interest	201:14
Interest	Simple interest	203:6-8
Interest	Amount from simple interest	203:9-12
Interest	Simple interest on English money	203:1-4
Interest	Simple interest	204:1-8 204:11,16
Interest	Amount from simple interest	204:9,10 204:12-15 204:17,18

Subject Matter	Situation	Index
Money		
Interest	Amount due on note	205:1 206:2,3
Interest	Amount due on note after 6 partial payments	207:1
Interest	Amount due on note after 5 partial payments	208:2,4
Interest	Amount due on note after 4 partial payments	208:3 209:1
Interest	Find rate per cent of simple interest	210:1 211:2-6
Interest	Find time money was at simple interest	211:1-5
Interest	Find principal at simple interest	212:1-4
Interest	Find compound interest	213:1 214:2-6 215:1-3
Interest	Amount at compound interest	215:5-7
Interest	Find present worth and discount	216:1 217:2,3
Interest	Find discount	217:4,5
Interest	Find present worth of note	217:6,7
Interest	Find bank discount and present worth of note	222:1 223:2,3,4
Interest	Find present worth of note	223:5,6,7
Interest	Find bank discount of a draft	223:8
Interest	Find principal of note discounted at bank for given sum	224:2,4,5 223:1
Interest	Insurance premium	225:1,2,3
Interest	Simple interest	202:1-5
Interest	Time to keep to equal interest on sum previously borrowed	320:18

Subject Matter	Situation	Index
Money		
Interest	Interest	245:1 246:2
Interest	Time given sum gains given interest	246:3
Interest	Principal to gain given interest in given time	246:4
Interest	Rate per cent of interest	246:5
Interest	Amount at compound interest by geometrical progression	295:7,8
Interest	Equated time of payment of debt	230:1 231:2
Rent	Amount received at end of 3 years when it should have been paid semiannually	293:5
Rent	Amount at end of year when rent was due monthly	293:7
Rent	Shares each of 3 pay of rent of house	324:60
Salary	Amount clergyman received at end of 8 years for salary that should have been paid annually	293:6
Savings	Amount mechanic deposits in 27 years	40:12
Tax	Amount each of given number of towns must pay	54:42
Taxes	Rate of tax and amount of man's tax	228:1,2
Taxes	Amount of man's taxes	229:3,4
Taxes	Rate of taxes	229:1
Taxes	Amount of person's taxes	229:2 230:3-6
Taxes	Rate and amount one man pays	320:19
Wages	Amount man received for year's labor paid by arithmetical progression	289:2
Wages	Amount for 6 month's labor reckoned by geometrical progression	297:7

Subject Matter	Situation	Index
Money Wages	Amount received for 21 days' work	156:10
Numbers	Common difference in an arithmetical progression	288:1,2,3
Numbers	Sum of series of arithmetical progression	289:1 291:1
Numbers	Sum of series in a geometrical progression	297:6,8
Numbers	Number different numbers may be formed from figures in 432 using all 3 figures in each	305:1
Oil	Cost per barrel	61:51
Oil	Buying and selling, find gain or loss	66:20
Oil	Cost of 144 gallons	74:2
Oil	Cost	99:6
Oil	Cost	243:10
Oil	Cost	330:35
Paper	Amount bought	78:25
Paper	Cost	108:40
Paper	Amount to paper room	268:5
Paper	Amount to paper room	320:22
Pasture	Share of rent of pasture each of 4 men should pay	257:10
Pavement	Length of side of square pavement made by 625 tiles	272:1
Pendulum	Number times vibrates in given length of time	109:55
Penknives	Cost of 19 dozen	74:8
Pens	Cost of 13 gross of steel pens	108:39
Pipe	Time takes pipe to fill cistern from comparison to another given	280:10

Subject Matter	Situation	Index
Pipe	Time takes to empty cistern	280:11
Plaster	Cost of plastering given room	320:23
Potash	Cost	59:32
Potash	Selling price per ton	76:13
Potash	Selling price	109:61
Potash	Buying and selling, find gain	129:6
Potash	Cost	176:13,17
Potash	Cost	178:36
Potash	Cost	193:2
Prize	Shares of each of given number of men	53:40
Property	Total amount	23:54
Property	Amount man is worth	32:3
Property Estate	Amount of	180:31
Estate	Amount left to be divided	321:29
Estate	Amount bequeathed to wife	321:30
Farm	Buying and selling, find selling price	23:51
Farm	Selling price	40:10
Farm	Buying and selling each of 6 person's share of net gain	49:30
Farm	Fractional part of farm given to wife	58:20
Farm	Cost	65:9
Farm	Buying and selling, find gain	67:35
Farm	Bartered for flour, wood, hay, wheat, and beans, find amount money due	68:46
Farm	Selling price of fraction of farm	177:23

Subject Matter	Situation	Index
Property		
Farm	Selling price	179:1
Farm	Cost	193:11
Farm	Equated time of payment for	231:4
Farm	Cost when changing from annual payments to one at end of 5 years with interest on the agreed annual payments	292:1
Farm	Area of a circular farm	311:2
Farm	Value of each of 9 equal parts	330:39
House	Fraction of selling price	179:3
House	Buying and selling, find gain	194:1
House	Insurance premium	225:4
House	Equated time of payment for house and lot	231:3
Rails	Length of longest rails used in fencing a given lot	167:5
Railroad	Cost of building	193:6
Railroad		
Grading	Cost of it	108:46,47
Shares	Value of each	53:38
Rakes	Cost of 43	74:5
River	Width, when height of tree on island in river, distance tree is from river, and length of line from top to further shore is given	278:5
Room	Number cubic feet in given room	98:7
Room	Cubic contents of given room	314:3
Rope	Circumference from comparison to another given	279:6
Rope		
Cable	Diameter from comparison to another given	279:5

Subject Matter	Situation	Index
Ruler	Side of square ruler made from cylinder of lignum vitae	280:3
School	Fractional part of school studying philosophy	59:21
Shares	Value of each of the shares of cost of building a factory	67:32
Shingle-Nails	Number cut in given time by a certain machine	109:50
Shingles	Number to cover given roof	109:56
Shingles	Buying and selling, find cost	321:31
Ship	Value of fraction of ship and cargo	177:22
Ship	Buying and selling, find gain	193:15
Ship	Actual loss of insurance company if ship and cargo lost	225:5
Ships	Distance apart when one sailed due north and other due east for given distances	278:2
Soil	Cubic feet of soil removed to enlarge ditch around garden	268:4
Soldiers	Number in regiment	35:25
Sound	Time takes sound to go from Boston to London	322:45
Sound	Distance report of gun was heard	322:46
Starch	Cost	180:18
Steeple	Height when line from top to point 50 feet on level from base of steeple is given	278:4
Steeple	Height from shadow when height of staff and its shadow given	320:17
Stock, R.R.	Part of fraction of a share bequeathed to each of 5 children	161:11
Stock	Value of railroad stock	220:1

Subject Matter	Situation	Index
Stock	Agent's commission and amount invested	220:2
Stock	Cost of given number of shares railroad stock	220:2,3
Stock	Cost of bank stock	221:4,5
Stock	Cost of railroad stocks	221:6
Stock	Value of 20 shares canal stock	221:7
Stock	Value of 15 shares of bank stock	221:8
Stock	Buying and Selling 87 shares of certain corporation, find gain	221:9
Stone Marble	Number cubic inches in a block	98:6
Marble	Length of cubical pile made from given number marble blocks	281:1
Tar	Amount bought	179:17
Tartar Emetic	Number doses in given weight	87:9
Term	Find last term in an arithmetical progression	292:1
Term	Find last term in a geometrical progression	295:1-6
Terms	Number of terms in an arithmetical progression	290:1
Tiles	Number to cover given floor	319:9
Timber	Bartered for cloth, find balance due	68:43
Timber	Selling price per ton	76:12
Timber	Cost	98:8
Timber	Amount in 7 loads	123:19
Timber	Amount in each of 7 loads	127:19
Timber	Cost	158:17

Subject Matter	Situation	Index
Timber	Width of square stick hewn from log	312:1
Timber	Cubic contents of a given stick of timber	316:2
Timber	Contents of square stick	318:2
Timber	Contents of round stick	319:1,2
Timber		
Boards	Cost	34:16
Boards	Cost per thousand floor	76:11
Board	Number pieces sawed into	163:6
Board	Cubic contents	169:14
Boards	Amount bought	178:45
Boards	Cost	180:24
Board	Area	193:9
Board	Length	269:2
Board	Distance from smaller end of triangular board to cut parallel to larger end to divide into 2 equal pieces	279:2
Board	Area	308:1
Board	Contents	318:1,2
Joist	Contents	318:1
Lumber	Selling price	224:3
Plank	Area	309:2
Plank	Side of cubical box that can be made from given plank	324:61
Stick	Side of square stick hewn from given round one	280:2
Wood	Amount bought	278:31
Wood	Amount J. Doe cuts in 9 days	123:23
Wood	Total selling price of wood, timber, and oxen	17:17

Subject Matter	Situation	Index
Timber		
Wood	Cost of walnut wood	34:13
Wood	Number cords can be bought for given sum	61:53
Wood	Total selling price of oak, maple, and walnut wood	67:34
Wood	Selling price of 19 cords	74:10
Wood	Cost per cord	76:14
Wood	Cost	78:19
Wood	Number cubic feet in given pile	98:5
Wood	Amount in 3 piles	120:16
Wood	Amount J. Doe cuts in 1 day	127:23
Wood	Cost	158:12
Wood	Cost	159:6
Wood	Cost	179:16
Wood	Value of part of pile	180:25
Wood	Cost	193:5
Wood	Cubic contents	193:8
Wood	Cost	193:13
Wood	Buying and selling, find cost per cord	251:4
Wood	Height of pile containing 75 cords	269:3
Wood	Cost	330:36
Words	Number words can be made from "Embargo" using all letters each time	305:4
Tower	Find elevation of base of tower above road when height of tower, width of road, distance of rock from road, and length of line from top of tower to point on opposite side of road is given	278:6
Trees	Number in orchard	23:49

Subject Matter	Situation	Index
Trees	Amount of income from apple orchard	65:11
Trees	Number of fruit trees in row each way in orchard and area orchard covers	276:6
Tree	Number cords tree yields from comparison to yield of similar tree	278:6
Trees	Number may be set in garden under given conditions	324:65
Wagon	Buying and selling, find loss	27:28
Water	Amount fell on town of Haverhill on rainy night in 1852	322:41
Weights	Cost of fraction of a ton	169:5
Weights	Cost of carrying	247:13
Weights	Cost of 1 hundredweight when cost of 5/8 ton given	319:6
Weights	Cost of carrying given weights given distance	319:10
Weights		
Apothecaries	Reduce grains to scruples	86:1
Apothecaries	Reduce scruples to grains	86:2
Apothecaries	Reduce drams to scruples	86:3
Apothecaries	Reduce ounces to pounds	86:4
Apothecaries	Reduce drams to ounces	86:5
Apothecaries	Weights to lower unit	87:1
Apothecaries	Weights to higher unit	87:2
Apothecaries	Weights to lower unit	87:3
Apothecaries	Weights to higher units	87:4
Apothecaries	Weights to lower units	87:5
Apothecaries	Weights to higher units	87:6
Apothecaries	Weights to lower unit	87:7

Subject Matter	Situation	Index
Weights		
Apothecaries	Weights to higher unit	87:8
Apothecaries	Reduce to lower unit	107:7
Apothecaries	Reduce to higher unit	107:8
Apothecaries	Reduce fraction to higher unit	172:3
Apothecaries	Reduce decimal of a pound to whole numbers of lower denomination	193:8
Avoirdupois	Number tenths of an ounce in 4-3/10 ounces, etc.	60:36
Avoirdupois	Reduce 369 pounds to ounces	66:15
Avoirdupois	Reduce ounces to drams	88:1
Avoirdupois	Reduce pounds to ounces	88:2
Avoirdupois	Reduce quarters to pounds	88:3
Avoirdupois	Reduce hundredweights to quarters	88:4
Avoirdupois	Reduce hundredweight to tons	88:5
Avoirdupois	Reduce quarters to hundredweight	88:6
Avoirdupois	Reduce given weights to pounds	88:1
Avoirdupois	Reduce pounds to tons	88:2
Avoirdupois	Reduce given weights to drams	89:3
Avoirdupois	Reduce given drams to tons	89:4
Avoirdupois	Reduce given hundredweight to pounds	89:5
Avoirdupois	Reduce given pounds to hundredweight	89:6
Avoirdupois	Reduce to lower unit	107:9
Avoirdupois	Reduce to higher unit	107:10
Avoirdupois	Reduce fraction of a hundred-weight to a lower unit	171:5,10
Avoirdupois	Reduce fraction to higher unit	172:4
Avoirdupois	Reduce denominate numbers to fraction of a ton	173:3

Subject Matter	Situation	Index
Weights		
Avoirdupois	Sum of denominate numbers	174:3
Avoirdupois	Difference of 2 weights	175:2
Avoirdupois	Fractional part of denominate numbers	176:7
Avoirdupois	Reduce decimal of a ton to whole numbers of a lower denomination	192:3
Avoirdupois	Reduce denominate numbers to decimal of higher denomination	192:3,4
Troy	Reduce pennyweights to grains	85:1
Troy	Reduce ounces to pennyweight	85:2
Troy	Reduce grains to pennyweight	85:4
Troy	Reduce pounds to ounces	85:3
Troy	Reduce pennyweight to ounces	85:5
Troy	Reduce ounces to pounds	85:6
Troy	Reduce weights to lower unit	85:1
Troy	Reduce weights to higher unit	85:2
Troy	Reduce weights to lower unit	86:3
Troy	Reduce weights to higher unit	86:4
Troy	Reduce weights to lower unit	86:5
Troy	Reduce weights to lower unit	86:7,10
Troy	Reduce weights to higher unit	86:8,9
Troy	Reduce to lower unit	107:5
Troy	Reduce to higher unit	107:6
Troy	Reduce fraction to higher unit	171:2
Troy	Reduce fraction of a pound to fraction of a grain	171:4
Troy	Reduce decimal of a pound to whole numbers of lower denomination	193:7
Troy	Reduce weights to higher unit	86:6

Subject Matter	Situation	Index
Wheels	Number revolutions from Boston to Portland	109:57
Wheel	Diameter	310:2
Work	Time takes 12 men to dig well	241:3
Work	Cost	180:20
Work	Time takes men to build bridge	246:6
Years	Sum of years first 4 Presidents lived	24:1
	Number of arithmetic problems	1445

TABLE XXIII

FREQUENCY OF OCCURRENCE OF SITUATIONS BY SUBJECT MATTER

IN GREENLEAF'S ARITHMETIC 1868

Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Adzes												1								
Age		3																		
Animals									2			1								
Horse									6			1								2
Horses									1											
Ox																				
Oxen												1								
Sheep			1																	
Ball																				
Bell																				
Books												5								
Bottles																				
Box													2							
Boxes													1							
Bricks		3																		
Capitol												1								
Carding Mill																				
Cellar																				
Chaise									1			2								
Chalk												1								
Cistern																				
Clay												1								
Cloth		11	1	1			2		6		1	29						1	1	1
Calico												1								
Canvas												1								
Carpet		1										1								
Silk		1										2								
Velvet							1					1								
Totals		19	2	1			3		16		1	49	3					1	1	3

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
																					1
												1									4
																					3
										2											11
					1																2
																			2		2
																					1
										1											2
																			1		1
																			1		1
															1						6
					1																1
1			1																		4
																					1
																					3
																					1
																		1			1
1																					1
										1											4
																					1
			1											1							2
																					1
										3								1			58
																					1
																					1
																				1	3
																					3
																					2
2			2		2					7		1		1	1			2	4	1	123

Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Clothing												6			1					
Boots												2								
Gloves												1								
Shoes							1		1		1									
Coal			1									4								
Cotton																				1
Distance		7													4					
Drugs																				
Ipecacuanha			2									1								
Tartar Emetic																				
Factory																				
Fence																				
Floor															1					
Food									1		1	3								
Beverages																				
Coffee												3								
Milk												1								
Tea		1					1					4								
Bread																				
Butter		1					1					2								
Cakes																				
Fruit																				
Apples							1					4							2	
Cherries												1								
Currants												1								
Oranges															2					
Pears																				
Rasins												2								
Grains		6					1					1								
Totals		15	3				5		2		2	36			8				2	1

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Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
																					7
																					2
																					1
																					3
																					5
																					1
											1	1					27				40
																			1		1
																					3
					1																1
	1																				1
			2																		2
			1																		2
														1							6
										1								1			5
																					1
																		2			8
											1								1		2
										1											5
					1																1
					1					1									1		10
																					1
																					1
					1						1										4
					1																1
																					2
																		1			9
	1		3		5					3	3	1		1			27	4	3		125

Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Grain																				
Flour		1	4						8		1	16							1	1
Oats		1																		1
Rye												3								
Wheat		3							2		1	2			1				1	1
Lard												1								
Meat																				
Beef			2						1			4								
Mackerel												1								
Molasses		6							6			11						1		
Nuts																				
Rice												2								
Salt		1					1					5								
Spices		1																		
Cloves												1								
Pepper												1								
Sugar		4	1				3		3			13							1	
Vegetables																				
Beans												1								
Corn		2							1			4			1					
Potatoes												1								
Vinegar												3								
Gems												1								
Goods							2		1		5	11						2		
Totals		19	7				6		22		7	81			2			3	3	3

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
										2											34
																					2
																					3
											2							1			14
																					1
																		1			8
																					1
										2								2			28
					1																1
																					2
																					7
																					1
																					1
																					1
										1								1	1		28
																					1
																					8
																					1
										1											4
																					1
										1					13						35
					1					7	2				13			5	1		182

Table
Frequency of Occurrence of
In Greenleaf's

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Hay		5	2				1					14							1	
Hardware												1								
Inhabitants															1					
Indigo												1								
Kite																			1	
Ladder																				
Land		9	3			6	2		8			27							2	
Ditch																				
Field																				
Garden						1														
Park						1														
Pasture																				
Leather									1											
Letters																				
Line												1								
Lines																				
Liquors																				
Ale												1								
Beer												2								
Wine		2										3								
Longitude		1																		
Marble													1							
Marbles																				
Measures												1			1					
Beer																				
Circle						1				1				2						
Circular																				
Totals		17	5			9	3		9	1		51	1	2	2				4	

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
										1					1				3		28
																					1
					5																6
																					1
																					1
			1																		1
			4		1					5	3								6		76
1																					1
			3																		3
																		1			2
																					1
			1								1										2
																					1
					1																1
																					1
					1																1
																					1
																					2
																					5
																					1
			1																		2
					1																1
			1																		3
								6													6
																					4
								6													6
1			11		9			12		6	4				1			1	9		158

Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Measures																			
Cloth																			
Cone					2							2							
Cube					1							2							
Cubic																			
Cylinder					2							3							
Dry																			
Earth					1														
Ellipse					2														
Globe					1														
Hexagon					1														
Linear		1												1					
Metric														1					
Pentagon					1														
Prism					2							1							
Pyramid					1							2							
Rhombus					1														
Sphere												2							
Spheroid												2							
Square														1				2	
Surveyor's																			
Trapezium					2														
Trapezoid					1														
Triangle					2														
Wine																			
Men																			
Metal																			
Copper Sheathing																	1		
Copperas		1						1		1									
Gold																			
Totals		2			20			1		1		14		3			1	2	

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
								19				1									20
																					4
			2																		5
								11													11
																					5
								17													17
																					1
																					2
																					1
																					1
								28				1									31
								10				3									14
																					1
																					3
																					3
																					1
																					2
																					2
								25				1									29
								11													11
																					2
																					1
			2																		4
								14													14
					4																4
																		1			1
																					1
																					3
																				1	1
			4		4			135				6						1		1	195

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Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Metal																				
Iron			1				4					6						1		
Lead												4						1		
Silver		2										1								
Money		44		2											2	7			4	
Annuity		11													1					
Bill		6									3	9								
Debt		2																		
Draft												2								
Earnings		4																		
Fine		1																		
Rent		2																		
Salary		1																		
Savings		1																		
Taxes		8																		
Wages		3																		
Numbers															3					
Oil									1			5								
Paper		2	1									1								
Pavement																				
Pendulum																				
Penknives												1								
Pens												1								
Pipe																				
Plaster												1								
Potash									1			5								
Prize																				
Property		2																		
Totals		89	2	2			4		2		3	36			6	7		2	4	

Situations by Subject Matter

Arithmetic 1868

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
																		1			13
																				2	5
	3	92				8	8	60			30	2			9			1			272
																					12
																					18
																					2
																					2
																					4
																					1
											1										3
																					1
																					1
							4														12
																					3
					1							9									13
																					6
			1																		4
															1						1
																					1
																					1
														2							2
																					1
										2											8
											1										1
																					2
	3	92	1		1	8	12	60		2	32	11		2	10			2	2		395

Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situation	Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Property																				
Estate		3																		
Farm						1	1		3			3							1	
House									1											
Bails																				
Railroad												1								
Grading												2								
Shares																				
Rakes												1								
River																				
Room													2							
Rope										1										
Cable														1						
Ruler																				
School																			1	
Shingle Nails																				
Ship									1								1			
Soil		1																		
Soldiers																				
Sound																	1			
Starch												1								
Steeple																				
Stock									1		1	5							1	
Tar			1																	
Term																				
Terms																				
Tiles																				
Timber		2				1						2	4							
Totals		6	1			2	1		6	1	1	15	6	1			2		3	

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
																					3
										3				1				1			14
	1									1				1							4
			1																		1
																					1
																					2
																		1			1
																					1
																				1	1
																					2
																					1
																					1
			1																		1
					1																1
					1																1
				1														1			4
					1																1
														1							2
																					1
2																					2
																		3			11
																					1
																		7			7
					1																1
					1																1
										1										1	11
2	1		2	1	4					5				3				13		2	78

Table

Frequency of Occurrence of

In Greenleaf's

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Duty	Fraction	Gain
Timber																			
Board					2							3							
Boards		1									3								
Joist												1							
Lumber																			
Plank					1														
Shingles								1											
Stick																			
Wood	3	2						1			9	2							
Time	32													3				1	
Years																			
Tower																1			
Trees												1							
Wagon								1											
Water	1																		
Weights											4								
Apothecaries																			
Avoirdupois														1				1	
Troy																			
Wheel													1						
Words																			
Work											1								
Totals	36	3			3			3			17	7	1	4		1		2	

Height or Depth	Insurance	Interest	Length	Loss	Number	Present Worth	Rate	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Times	Time When	Travelled	Value	Weight	Width	Totals
			2								1										8
																					4
																					1
										1											1
																					1
					1																2
			1																		1
1										3								1			22
								27								2					65
												1									1
																					1
					3													1			5
																					1
																					1
																					4
								17													17
								24				1									27
								21													21
															1						2
					1																1
														2							3
1			3		5			89		4	1	2		2	1	2		2			189
																	GRAND TOTAL				1445

Table XXIV

This Table is a Summary of Table XXIII According to Specifications.

Amount Situations

	Totals
Amount or Quantity	201
Difference	25
Fraction	21
Number	31
Shares	42
Sum	21
Grand Total	341

Measuring Situations

	Totals
Area	33
Circumference	2
Cubic Contents	31
Diameter	4
Distance	3
Height or Depth	6
Length	26
Rate	12
Reduce	296
Traveled	27
Weight	14
Width	3
Grand Total	457

Money Situations
Not Buying or Selling

	Totals
Gain	7
Insurance	5
Interest	92
Loss	1
Present Worth	8
Value	36
Grand Total	149

Buying Situations

	Totals
Amount Bought	25
Amount of Change	3
Cost	286
Grand Total	314

Selling Situations

	Totals
Selling Price	34

Buying & Selling Situations

	Totals
Barter	23
Bought & Sold	61
Commission	14
Discount	7
Duty	7
Grand Total	112

Time Situations

	Totals
Time	32
Times	3
Time When	2
Grand Total	37

Table XXV

Showing the Largest Number of Places in Given Figures of the Problems as Stated but not Solved in Greenleaf's National Arithmetic.

Number of Places	Frequency	Percentage
0 Figure	1	
1 Place	110	7.6
2 Places	497	34.3
3 Places	344	23.7
4 Places	278	19.2
5 Places	127	8.7
6 Places	51	3.5
7 Places	19	1.3
8 Places	12	.8
9 Places	4	.2
10 Places	0	.0
11 Places	0	.0
12 Places	1	.07
13 Places	1	.07
Total	1,445	99.44

Table XXVI

Showing Number of Places in the Decimals Occurring in the Problems as Stated but not Solved in Greenleaf's Arithmetic.

Number of Places	Frequency	Percentage
1 Place	5	.8
2 Places	553	93.4
3 Places	27	4.5
4 Places	2	.3
5 Places	1	.15
6 Places	3	.5
Total	591	99.65

Table XXVII

Showing the Total Number of Fractions Occurring in all Problems as Stated but not Solved in Greenleaf's National Arithmetic

Fractions	Frequency	Percentage
1/2	56	13.6
1/4	27	6.5
3/4	40	10.0
1/3	13	3.1
2/3	12	3.0
1/5	6	2.0
2/5	1	.2
3/5	11	3.0
4/5	9	2.1
1/6	6	2.0
5/6	4	.9
1/7	5	1.2
2/7	4	.9
3/7	11	2.6
4/7	10	2.4
5/7	7	2.0
6/7	3	.7
1/8	9	2.1
3/8	18	4.3
5/8	10	2.4
7/8	15	4.0
2/9	1	.2
3/9	2	.4
4/9	11	2.6
5/9	3	.7
7/9	7	2.0
8/9	2	.4
3/10	4	.9
1/10	1	.2
7/10	4	.9
9/10	1	.2
1/11	3	.7
2/11	2	.4
3/11	10	2.4
4/11	13	3.1
6/11	1	.2
7/11	13	3.1
8/11	1	.2
9/11	5	1.2
10/11	1	.2
1/12	2	.4
5/12	2	.4

Continued

Fractions	Frequency	Percentage
7/12	3	.7
11/12	6	1.5
2/13	1	.2
4/13	1	.2
5/13	1	.2
6/13	1	.2
7/13	1	.2
9/13	1	.2
11/13	2	.4
3/14	1	.2
5/14	1	.2
1/16	1	.2
5/16	1	.2
7/16	1	.2
9/16	2	.4
6/17	1	.2
7/18	2	.4
3/19	1	.2
7/20	1	.2
24/25	1	.2
11/32	1	.2
11/40	1	.2
25/72	1	.2
4/75	1	.2
14/101	1	.2
111/140	1	.2
1/200	1	.2
1/1320	1	.2
1/1400	1	.2
1/1728	1	.2
1/8640	1	.2
1/58080	1	.2
1/89600	1	.2
1/2160	1	.2
Grand Total	410	98.9

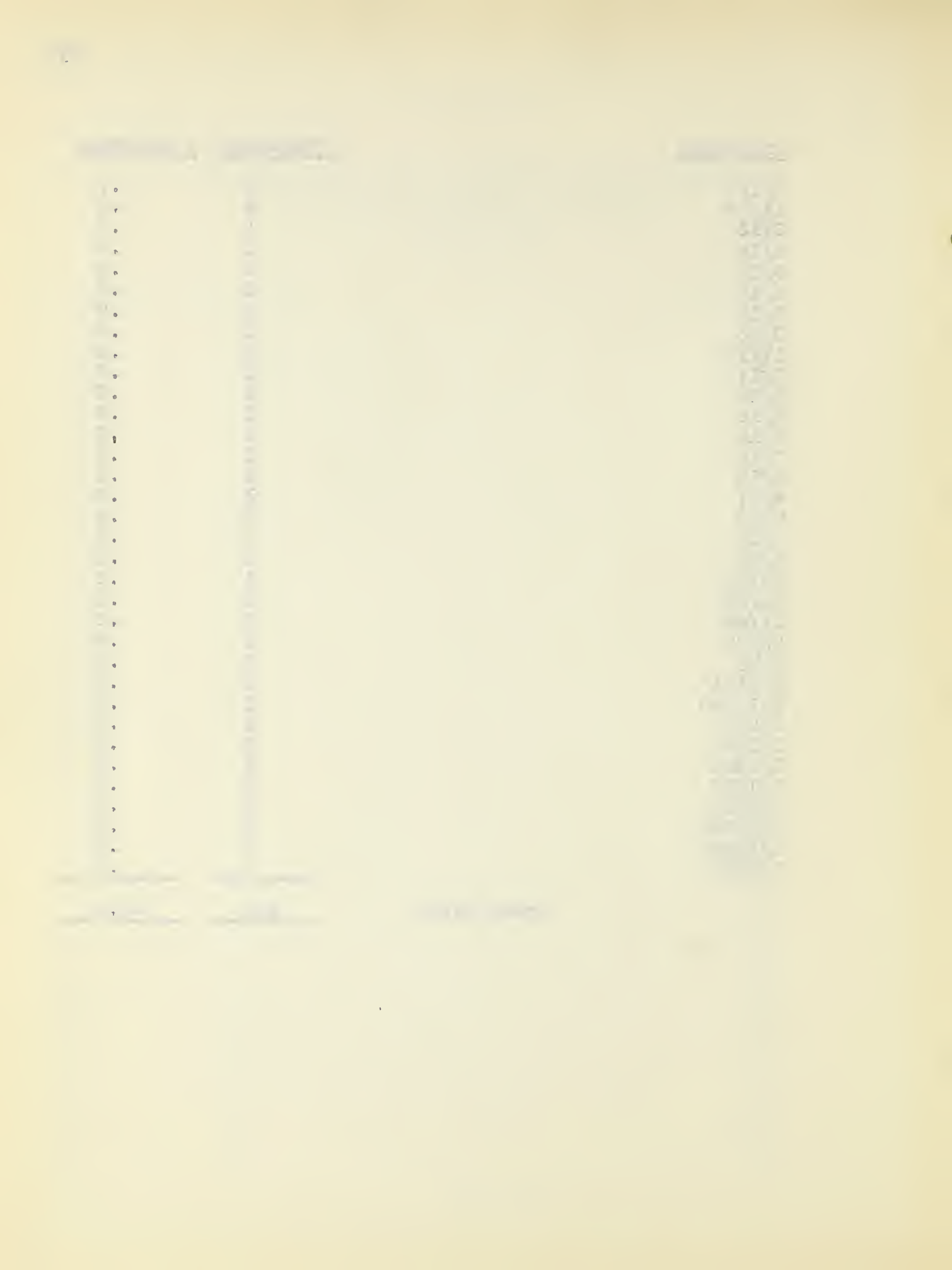

Table XXVIII

Number of Problems, Distributed on the Basis of the Processes Used in Greenleaf's National Arithmetic.

Processes	Frequency	Percentage
Addition	35	2.4
Subtraction	36	2.5
Multiplication	332	23.0
Division	171	12.0
Addition, Subtraction, Multiplication, Division	12	.8
Addition, Subtraction	17	1.1
Addition, Multiplication	173	12.0
Addition, Division	11	.7
Addition, Subtraction, Multiplication	43	3.0
Addition, Subtraction, Division	8	.5
Addition, Multiplication, Division	53	4.0
Subtraction, Multiplication	49	3.3
Subtraction, Multiplication, Division	49	3.3
Subtraction, Division	13	.8
Multiplication, Division	257	18.0
Compound Addition	10	.6
Compound Subtraction	11	.7
Compound Multiplication	45	3.1
Compound Division	38	2.6
Compound Addition, Compound Subtraction	2	.1
Compound Subtraction, Multiplication	8	.5
Compound Subtraction, Compound Multiplication	8	.5
Compound Multiplication, Compound Division	11	.7
Compound Addition, Compound Multiplication, Compound Division	1	.06
Addition, Compound Multiplication	7	.4
Addition, Multiplication, Compound Division		
Square Root	3	.2
Addition Square Root	1	.06
Addition, Multiplication, Square Root	3	.2
Addition, Multiplication, Square Root	3	.2
Subtraction, Multiplication, Square Root	5	.3
Multiplication, Division, Square Root	1	.06
Addition, Multiplication, Division, Square Root	2	.12
Subtraction, Multiplication, Division, Square Root	1	.06
Multiplication, Division, Square Root	13	.8
Cube Root	3	.2
Multiplication, Division, Cube Root	8	.5
Multiplication, Cube Root	2	.12
Total	1,445	98.58

Table XXIX

Problems and Examples Already Solved in Greenleaf's Book.

Number Problems Solved in Book	157
Number Examples Worked in Book	148
Number Problems with Answers Given	1,159
Number Problems without Answers Given	285
Number Examples with Answers Given	762
Number Examples without Answers Given	245

Table XXX

Analysis of Pages in Greenleaf's Arithmetic For Common Schools and Academies

	Pages Numbered	Inches	Pages
Introduction	1-6		
Title		3.5	.19
Author's name		.5	.03
Edition		.5	.03
Publishers		1.25	.075
		.50	.03
Adver		4.5	.27
Copyrights		1.75	.11
Preface		5.75	.345
Contents		11.25	.67
Arithmetic Text	7-330		326.
Adv	-332		2.
Blank Pages			2.25
			332.00

Analysis of Pages in Greenleaf's Arithmetic Already Included in Table

		Pages
Tables	Arithmetic	17.5
Illustrations		1.7

CHAPTER IV

Hamilton's Complete Arithmetic

Published By

American Book Company - New York, 1908

Table XXXI

Topics of Processes under which Problems and Examples are Classified in Complete Arithmetic by Hamilton - 1908

Topic	Number of Examples	Number of Problems
Fundamental Processes:		
Writing and Reading Numbers	77	0
Addition	101	6
Subtraction	69	9
Multiplication	80	27
Division	88	14
Comparison	7	7
Combining Processes	16	0
Factors and Divisors	72	2
Fractions	830	125
Problems for Analysis	9	63
Decimal Fractions	381	46
Simple Accounts	0	11
Denominate Numbers	101	27
Practical Measurements:		
Length	4	7
Surface	20	21
Painting and Kalsomining	0	5
The Right Triangle	8	1
Volume	24	0
Practical Applications	2	16
Lumber	4	28
Review Problems	1	39
Percentage	18	15
Commission	0	11
Commercial Discount	29	16
Interest	55	1
Review of Percentage and Interest	4	17
Receipts and Checks	3	9
General Review	33	51
Total Part I - Sixth Year	2,036	574

Table XXXI

Topics of Processes under which Problems and Examples are Classified in Complete Arithmetic by Hamilton - 1908

Topic	Number of Examples	Number of Problems
Bills and Accounts	5	18
Denominate Numbers	61	49
Foreign Money	27	10
Review Problems	13	29
Practical Measurements:		
Length and Surface	25	2
Lines and Angles	6	0
Triangles	13	0
Quadrilaterals	8	0
Rectangles	9	7
Plastering and Painting	0	7
Roofing and Flooring	0	10
Papering and Carpeting	0	9
Areas of Triangles Quadrilaterals and Circles	56	1
Solids	30	22
Lumber	3	41
Concrete, Stone, and Brickwork	0	8
The Cylinder	15	2
Bins, Tanks, and Cisterns	0	5
Approximate Measurements	0	10
Review Problems	9	44
Analysis	20	50
Percentage, Review	202	77
Gain and Loss	28	23
Commission and Brokerage	17	25
Insurance	0	25
Commercial Discount	4	36
Commercial Bills	0	4
Local and State Taxes	29	10
Duties or Customs	0	14
Interest:		
Simple Interest	171	2
Problems in Simple Interest	22	9
Annual Interest	0	4
Exact Interest	11	1
Compound Interest	0	4
Investments	3	1
Savings Accounts	4	5
Promissory Notes	20	3
Partial Payments of Notes	0	13
Total Part II - Seventh Year	811	580

Table XXXI

Topics of Processes under which Problems and Examples are Classified in Complete Arithmetic by Hamilton - 1908

Topic	Number of Examples	Number of Problems
Banks and Banking	9	2
Bank Discount	28	32
Exchange	6	15
Stocks and Bonds	42	35
Test Problems in Percentage	0	16
Ratio and Proportion	50	36
Problems for Oral and Written Analysis	2	35
Longitude and Time	20	10
Government Land Measures	7	2
Powers and Roots	139	7
Mensuration	27	61
Metric System	5	30
Agricultural Problems	0	57
Test Problems		43
General Review	21	130
Optional Subjects:		
Present Worth and True Discount	0	8
Foreign Exchange	8	9
Compound Proportion	0	4
Cube Root	26	11
Total Part III - Eighth Year	390	543

GRAND TOTAL

Part I	2,036	574
" II	811	580
" III	390	543
	3,237	1,697
		3,237
Total		4,934

Table XXXII

Problems Listed in Relation to Subject Matter and Situation in Hamilton's Complete Arithmetic, 1908

Subject Matter	Situation	Index
Age	Age of person	98:56
Age	Age of each pupil in room	120:13
Age	Age of Lee and Grant at end of Civil War, and difference between their ages	120:14
Age	Present age of man born 7/3/1882	120:15
Age	Age of Washington when inaugurated President	185:8
Age	Age of Grant at close of Civil War	185:10
Age	B's age by solving equation	232:4
Age	H's age by solving equation	233:13
Age	Age of Alice by solving equation	234:28
Age	Age of insured when first annual premiun is given	263:6
Agricultural Problems		
Feed	What per cent of crop the seed was	242:2
Feed	Nutritive ratio of green corn fodder	393:15
Feed	Nutritive ration of food composed of Timothy Hay and wheat bran	393:16
Feed	Nutritive ratio of alfalfa hay and bran	393:17
Feed	Nutritive ratio of red clover and wheat bran	393:18
Feed	Nutritive ratio of special feed given to dairy cow	393:19
Feed	Nutritive ratio of balanced ration of red clover hay and oats grain	393:20
Feed	Nutritive ratio of feed for hogs	393:21
Feed	Nutritive ratio of feed composed of Timothy hay and corn grain	393:22

Subject Matter	Situation	Index
Agricultural Products		
Feed	Nutritive ratio of feed for horses, is it too wide or too narrow	394:29
Feed	Nutritive ratio of feed for cattle	394:30
Feed	Nutritive ratio of feed for cattle	394:31
Fertilizer	Gain in buying and selling	85:16
Fertilizer	Cost	335:2
Fertilizer	Value per ton of commercial fertilizer	396:6
Bone-meal	Value per ton of bone-meal	396:7
Kerosene	Amount	74:9
Kerosene	Find cost of kerosene to make 10% and 8% emulsion for spraying	399:12
Kerosene	Number gallons kerosene emulsion used to kill plant lice and number pounds soap in emulsion	398:14
Lime-Sulphur	Cost of lime-sulphur solution	400:15
Manure	Number tons manure required to supply phosphoric acid in hay produced	396:3
Manure	Amount of manure needed to replace loss of potash from soil	396:4
Manure	Fertilizing value of five tons manure	396:5
Manure	Amount manure required to supply field with phosphoric acid removed by crop	396:8
Nitrogen	Amount nitrogen required to produce certain crops	396:1
Nutrients	Timothy Hay	392:1
Nutrients	Red Clover Hay	393:2
Nutrients	Dry Corn Fodder	392:3

Subject Matter	Situation	Index
Agricultural Products		
Fertilizer		
Nutrients	Corn Silage	392:4
Nutrients	Wheat Straw	392:5
Nutrients	Alfalfa Hay	392:6
Nutrients	Corn and Grain	392:7
Nutrients	Oats and Grain	392:8
Nutrients	Wheat Bran	392:9
Nutrients	Oil Meal	392:10
Nutrients	Oat Straw	392:11
Nutrients	Cowpea Hay	392:12
Nutrients	Corn	392:13
Nutrients	Red Clover, green	392:14
Potash	Amount potash in 1500 pounds butter, etc.	396:2
Ration	Nutritive ratio of alfalfa hay and corn grain	394:23
Ration	Nutritive ratio of balanced ration consisting of corn silage and red clover hay	394:24
Ration	Nutritive ratio of ration of dry corn fodder and wheat bran	394:25
Ration	Nutritive ratio of given balanced ration. Is it too wide or too narrow	394:26
Ration	Is nutritive ratio of given balanced ration for work horses too wide or too narrow	394:27
Ration	Nutritive ratio of ration prepared for cows, is it too wide or too narrow	394:28

Subject Matter	Situation	Index
Agricultural Products		
Fertilizer Spraying	Cost of spraying vine-yard	397:3
Spraying	Net value	397:5
Spraying	Net gain from vineyard as result of spraying	398:6
Spraying	Gain from spraying cabbage	398:13
Spraying	Cost of spraying per acre of potatoes	398:8
Spraying	Net profit per acre of potatoes as result of spraying	398:9
Spraying	Net gain per apple tree as result of spraying	399:11
Spraying	Cost per tree to spray orchard, and net gain per tree due to prolonged life	400:16
Spraying-Materials	Amount materials necessary to make Bordeaux mixture to spray vineyard	397:1
Spraying-Materials	Cost of materials for 500 gallons Bordeaux mixture	397:2
Spraying-Materials	Cost of materials to spray	398:7
Spraying-Materials	Cost of materials and cost of applying spray per gallon and per tree	398:10
Air	Number breaths taken to inhale 1 cubic foot	133:6
Air	Average number cubic feet air space per person in class room	133:7
Air	Cubic feet air space per person in room and frequency of changing to meet law	401:5
Animals	Cost of cow and of horse	403:16
Animals	Cost	28:19
Animals	Number	87:40

Subject Matter	Situation	Index
Animals	Selling price	160:15
Animals	Per cent of gain on buying and selling	335:4
Cows	Number sold	144:1
Horse	Cost	89:60
Horse	Gain in buying and selling	145:10
Horse	Value of	146:32
Horse	Selling price	155:7
Horse	Cost of horse, sleigh, harness	236:52
Horse	Cost of horse and buggy	248:19
Horse	Selling price	253:22
Horse	Cost	254:17
Horse	Difference between two offers	422:8
Sheep	Number bought	84:8
Sheep	Number A has	232:4
Sheep	Find cost of 20	339:13
Article	Cost	89:72
Article	Cost, given gain per cent and selling price	245:10
Article	Marking price	253:4
Article	Per cent above cost article must be marked in order to make 25% after giving 20% discount	253:2
Article	Net price, given list price and percentage of discount	264:2
Article	Net cost, given list price, and per cent of successive trade discounts	266:4-9
Article	Net cost, given list price and per cent of successive trade discounts	266:10-12
Article	Per cent of loss	406:6

Subject Matter	Situation	Index
Article	Selling price	402:8
Automobile	Distance run in four hours	25:12
Automobile	Selling price	165:74
Automobile	Differences in discounts on cost	165:84
Automobile	Cost of two	236:56
Automobile	Lost on sale	240:23
Automobile	Velocity	341:29
Automobile	Loss per cent if sold at given price	407:20
Ball	Size	381:3
Ball	Diameter	432:7
Ball	Ratio of diameter of two balls	432:9
Bar	Length	403:17
Bar	Length	405:37
Barrels	Number required to pack apples	122:2
Bicycle	Cost	233:12
Bin	Estimate capacity in bushels of grain	134:14
Bin	Number of bushels bin contains	139:18
Bin	Cubic contents	161:36
Bin	Contents in bushels	233:1
Bin	Dimensions of square bin	432:11
Binder - (Grain)	Marked price	404:30
Blackboard	Cost	127:38
Blankets	Duty paid on import	274:9
Boardwalk	Length	138:2
Boiler- (Steam)	Entire Surface	370:3

Subject Matter	Situation	Index
Book	Selling price	77:15
Books	Cost	64:37
Books	Number in library	77:13
Books	Cost	109:8
Books	Cost less discount	148:11
Books	Net proceeds on sale	165:71
Books	Write orders for books	168:1
Books	Number purchased	190:31
Books	Number books in H's library	233:14
Books	Selling price	249:5
Books	Dealer's profit on sale	406:7
Box	Number cubical boxes can be stored in a storeroom	215:13
Box	Difference in cubic contents of box and bushel in which potatoes are shipped	216:22
Box	Difference in cubic volume contents of box and bushel of Colorado apples	216:23
Box	Cubic contents of box in which apples are shipped	216:24
Box	Cubic contents of boxes used for oranges and tangerines, and the difference in volume between boxes	216:28
Box	Cubic contents (cubic inches) of two different boxes	216:29
Box	Contents in bushels	223:2
Box	Number smaller cubical boxes can be put in large box	225:6
Box	Dimensions of rectangular box	403:23
Box	Per cent of space unfilled when sphere is placed in box	417:124

Subject Matter	Situation	Index
Box	Edge, given cubical contents	432:1
Box	Edge of cubical box knowing contents	432:4
Box	Edge of cubical box of given volume	432:5
Brick	Cost	28:18
Brick	Cost	84:9
Brick	Cost of bricks and labor	100:56
Bricks	Number necessary for sidewalk and cost	200:13
Bricks	Find number made in 25 days	340:28
Brick	Estimate number of bricks required for walls of house	226:13 221:6-7
Brick	Estimate cost of face bricks for house	226:14
Brick	Cost of brick for sidewalk	229:39
Bridge	Gain in building bridge	190:33
Buggy	Cost	252:10
Buggy	Gain or loss per cent on sale	254:12
Buggy	Cost	269:3
Buggies	Net price	149:21
Building	Cost of building, given amount and rate of architects commission	257:1
Cellar	Area of cellar	133:2
Cellar	Length of walls	133:3
Cement	Cementing surface of floor	138:9
Cement	Cost of 20 barrels	35:6
Cement walk	Cost of laying	391:14
Cementing	Cost of cementing cellar floor	133:5
Cementing	Cost of cement floor of cellar	229:36
Cementing	Cost of cementing sides and bottom	229:44

Subject Matter	Situation	Index
Cigars	Duty on imported	274:7
Cisterm	Number of barrels cistern will hold	223:4
Cistern	Number of barrels of water it will contain	229:42
Cistern	Depth of cubical cistern	432:3
Clay	Weight of load of clay	230:49
Clocks	Duty on imported	272:2
Cloth		
Calico	Find marking price of calico	109:4
Calico	Amount of calico bought	110:1
Carpet	Net price	149:27
Carpet	Duty on imported Brussels carpet	274:6
Carpet	Wholesale price in U. S. on imported carpet	411:62
Carpet	Find cost to carpet room	161:34
Carpet	Amount required	205:4
Carpet	Number of yards of each width carpet required to cover floor	205:5
Carpet	Estimate number of strips ingrain carpet to cover each of five rooms	205:6
Carpet	Number of strips Brussels carpet needed	205:7
Carpet	Difference in cost between using Axminister and ingrain carpets	205:9
Carpet	Amount required for room	227:17
Carpet	Cost of carpet required for room	227:18
Carpet	Cost of carpet for room	412:72
Carpet	Cost of carpet for hall	418:134
Cheese-cloth	Cost of cheesecloth bought	111:7

Subject Matter	Situation	Index
Cloth		
Flannel	Amount of duty paid on imported flannel	413:86
Gingham	Amount bought	111:6
Lace	Number of yards imported	274:14
Linoleum	Cost of covering kitchen with linoleum	205:8
Linoleum	Number square inches linoleum required	388:4
Matting	Cost of covering hall floor with matting	138:4
Ribbon	Amount unused	84:4
Ribbon	Cost	109:7
Ribbon	Amount needed to make badges, yards and inches	186:4
Ribbon	Amount necessary to make badges	386:8
Silk	Cost of silk	35:4 62:3 86:31
Silk	Selling price of silk	254:14
Silk	Gain on selling imported silk	419:138
Suiting	Net price of suiting	150:33
Cloth	Cost	79:19
Cloth	Bought	111:5
Cloth	Selling price	156:15
Cloth	Cost in shillings of 20 yards of cloth	182:9
Cloth	Cost given, selling price and per cent of profit	252:20
Cloth	Loss per cent if cloth had been sold at certain price	253:24
Cloth	Marking price	391:19
Clothing	Cost of making	57:27

Subject Matter	Situation	Index
Clothing	Cost	144:8
Clothing	Make out and receipt bill for clothing	158:7
Clothing	Make out and receipt bill for clothing, order of dry goods	170:6
Clothing		
Caps	Net price of boys' caps	149:20
Coat	Cost of coat	246:15
Collars	Quantity of collars bought	111:10
Hats	Number sold at $2.00 each	80:42
Hats	Number per cent of gain on sale	251:9
Neckties	Net price	264:1
Shoes	Time required to make 4600 pairs	65:45
Shoes	Cost	82:62
Shoes	Gain on sales	82:63
Shoes	Gain on buying and selling	84:2
Shoes	Cost, given per cent of whole amount money spent for shoes	155:3
Shoes	Gain per cent on pair	346:8
Suits	Gain in buying and selling suits	79:20
Suits	Cost for two boys and a girl	156:17
Suit	Gain in buying and selling suit	191:34
Suit	Cost of suit	234:25
Suit	Cost of lady's clothing	235:35
Suit	Cost of suit and coat, when coat cost 33-1/3% less than suit, or $24.00	246:11
Suit	Cost of suit	401:4
Coal	Gain in buying and selling	28:27

Subject Matter	Situation	Index
Coal	Amount consumed by engine	34:11
Coal	Cost of coal for trip of steamboat	34:14
Coal	Cost	78:5
Coal	Amount purchased	84:1
Coal	Cost	89:66 109:11
Coal	Gain	118:36
Coal	Weight	122:5
Coal	Amount used daily generating power	122:8
Coal	Selling price	156:20
Coal	Cost of carload	165:78
Coal	Average number of pounds per minute used in making ocean trip	181:31
Coal	Estimate weight in tons of hard and soft coal wagon box will hold	224:2
Coal	Tons in a bin	225:6
Coal	Rate of agent's commission on sale of coal	256:7
Coal	Cost	340:23
Coal	Tons of hard coal hopper will contain	375:9
Coal	Merchant's per cent of profit	407:12
Coal	Gain on sale	411:61
Columns	Estimate number of cubic feet in six marble columns	373:4
Cone	Convex surface	371:1
Concrete-work	Number cubic yards material used in concrete foundation	220:2
Concrete-material	Amount of cement, sand and gravel used in 806 cubic yards	221:3

Subject Matter	Situation	Index
Concrete-work	Cost at 7.76 per cubic yard	221:4
Concrete-work	Estimate number cubic yards of concrete in wall	221:5
Concrete	Number cubic feet of concrete may be manufactured by mixer in week	375:8
Cork	Weight of 10 cubic feet	380:6
Cork	Weight of one cubic foot having spec. grav.	380:15
Cotton	Average value annual production cotton and grain	18:4
Cotton	Net proceeds on sale of cotton	256:5
Cotton	Amount to be sent broker to cover purchase of cotton commission freight, storage, and cartage	258:4
Crate	Cubic inches in crate of cranberries	216:21
Crate	Cubic inches in crate used for celery	216:25
Cube	Find diagonal	403:21
Cube	Weight	134:13
Cube	Shortest distance between 2 diagonally opposite corners	403:22
Cube	Find volume	412:75
Cube	Area of base	432:2
Cube	Edge, knowing volume	432:6
Diagonal	Length of diagonal of square field	366:11
Diagonal	Difference between length of diagonal and side of square	412:68
Diagonal	Distance between opposite corners of rectangular field	415:106
Diamonds	Duty on imported	273:3
Ditch	Cost of digging	62:13

Subject Matter	Situation	Index
Distance	Railroad distance between Chicago and New York via Pittsburgh	18:1
Distance	Distance boy rides	25:9
Distance	Distance F. walks from home to school	28:25
Distance	Distance apart two trains are	28:26
Distance	Distance bicycle rode in four hours	54:30
Distance	Sum and difference of distance walked	57:26
Distance	Distance between two places	68:44
Distance	How far auto travels in given time	68:46
Distance	Miles traveled	78:12
Distance	Distance from Philadelphia to Pittsburgh	79:22
Distance	Number miles traveled and average rate per day	79:25
Distance	Number miles traveled if a man walking number of miles from New York to Mexico City, and time to make trip	83:71
Distance	Distance man walks	118:41
Distance	Distance auto ran	122:10
Distance	Distance around school grounds	123:4
Distance	Number rods walked by J. going to and from school	123:8
Distance	Miles M. walks in 180 days	123:10
Distance	Number miles H. walks in 160 days	123:11
Distance	Distance around building	159:12
Distance	Number feet auto ran per second	178:21
Distance	Distance J. walks to school	178:24
Distance	Number feet R. F. D. carrier walks	180:25

Subject Matter	Situation	Index
Distance	Distance hearer was from cannon	181:32
Distance	Distance around field	186:1
Distance	Distance bicyclist traveled	187:11
Distance	Rate per hour of fast train	188:9
Distance	Number miles train runs	188:10
Distance	Number miles per hour train runs	189:12
Distance	Number miles traveled in 1.25 hours	189:20
Distance	Number miles man went in 1 day	235:37
Distance	Distance represented on map by 5/16 inches	340:21
Distance	Distance between two autos and draw diagram	366:10
Distance	Distance from centre of square field to corner - draw diagram	368:2
Distance	Length of voyage from San Francisco to Manila	354:1
Distance	Length of voyage from Manila to San Francisco	354:2
Distance	Distance to be traveled	385:6
Distance	Change distance from kilometres to miles	385:7
Distance	Express kilometers in miles	386:9
Distance	Express kilometers in meters, etc.	386:10
Distance	Change miles to kilometers and meters	386:11
Distance	Distance between two ships knowing latitude and longitude	402:13
Distance	Number of feet boy on flagpole is from top	405:40
Distance	Distance between ends of lines on sides of square	407:13

Subject Matter	Situation	Index
Distance	Distance between two cities	411:67
Distance	Distance boat traveled in crossing river	417:128
Distance	Distance of thunder cloud	419:40
Drills	Net price	149:23
Earnings	Amount	82:59
Earnings	Amount farmer must earn to clear 8% on cost of property	247:5
Earnings	Earnings apportioned to each of two railroads	342:6
Earth	Number loads needed to cover city lot with layer 1 foot thick	133:8
Electricity	Cost for year	64:42
Employees	Number employed by manufacturer	347:20
Envelopes	Cost	78:16
Estate	Value of estate	89:70
Estate	Each brother's share of estate	100:55
Estate	Agent's commission and net proceeds on sale of real estate	147:9
Examination Question	Average per cent of questions answered	412:70
Excavating	Cost of excavating cellar	132:1
Excavating	Cost	133:4
Excavating	Cost of digging ditch	133:11
Excavating	Number cubic yards earth dug from cellar	138:3
Excavating	Cost of digging cellar	139:15
Excavating	Cost of excavating street	139:25
Excavating	Cubic yards dug from cellar	163:47
Excavating	Number of loads of earth to be removed (volume in cubic yards)	215:8

Subject Matter	Situation	Index
Excavating	Number of loads of earth removed from cellar	215:18
Excavating	Height to which removed earth will raise grade of lot	227:15
Excavating	Cost of excavating street	229:37 411:60
Excavating	Depth to which lot was covered	230:51
Excavating	Length of sewer from amount of earth removed	230:53
Excavating	Cost	248:24
Excavating	Cost of excavating cellar	388:2 404:35 405:38
Excavating	Number cubic meters of earth removed for sewer	391:18
Expenses	Amount of student's expenses	83:65
Expenses	Expenses of Mr. J.	155:2
Expenses	Amount left from rent after paying expenses	156:19
Fence	Outside surface of board fence	200:11
Fence	Number of rods of fence required	357:8
Fence	Number of rods required for tract	357:9
Fence	Cost of fence around farm	226:10
Fence	Cost of fence around four equal square farms made by dividing one square mile of land	226:11
Fence	Cost of fence around circular park	230:45
Fence	Cost of fence around tract of land	391:15
Fence	Find difference in cost of fences inclosing fields of same areabut different shape	402:9

Subject Matter	Situation	Index
Fencing	Cost of fencing plot	140:30
Fencing	Cost of fencing field	417:125
Field	Find perimeter of field	193:10
Flowerbed	Draw to scale and find area	125:12
Flowerbed	Area of flowerbed	140:28
Flowerbed	Area	200:1
Flooring	Amount required and cost of laying	139:16
Flooring	Amount of flooring for building	230:52
Floors	Area of four floors	97:36
Floors	Draw to scale and find area	125:13
Floors	Find surface area uncovered	133:9
Food	Cost of board and room	80:37
Beverages:		
Cocoa	Duty, knowing amount imported, rate of duty and tare	274:13
Coffee	Cost	35:3
Coffee	Amount bought	111:14
Milk	Cost	25:5
Milk	Freight on	34:9
Milk	Gain-difference between milk sold and gain bought	110:17
Milk	Amount bought	111:8
Milk	Amount family uses	117:33
Milk	Selling price	165:83
Milk	Amount delivered	177:2
Milk	Amount sold. Reduce gallons to pints	180:27
Milk	Cash amount of sales for four weeks. Change gallons to quarts	187:15

Subject Matter	Situation	Index
Food		
Beverages:		
Milk	Weight of fifty gallons	380:5
Milk	Weight of 48 gallons, knowing specific gravity	414:90
Milk	Weight of one cubic foot knowing specific gravity	380:9
Butter	Cost	35:1
Butter	Number of pounds sold	43:8
Butter	Amount in five tubs	78:8
Butter	Cost of butter and eggs	85:18
Butter	Cost	109:3
Butter	Per cent of gain on sales	249:4
Butter	Duty on imported	273:4
Butter	Amount of butter merchant originally had	402:14
Butter	Net proceeds on sale of butter	410:50
Candy	Number packages weighing five ounces each can be made from five pounds	121:15
Cheese	Cost	25:7
Eggs	Amount to be bought for given sum	106:41
Eggs	Cost	109:9
Eggs	Selling price	155:11 156:14 164:70
Eggs	Cost	159:11
Eggs	Amount of gain on sale	250:11
Eggs	Number in six dozen	25:1
Eggs	Cost	35:7
Eggs	Gain on buying and selling	84:6

Subject Matter	Situation	Index
Food Grain:	Number of bushels in pile	374:7
Flour	Cost	33:1
Flour	Selling price	82:61
Flour	Per cent of gain on sale	251:7
Flour	Rate of agent's commission buying flour	256:8
Flour	Weight of barrel of flour in kilos	391:10
Oats	Cost	74:6
Oats	Cost	109:10
Oats	Cost of amount horses ate in two months. Change pecks to bushels	187:13
Oats	Hectoliters eaten by horse in sixty days	390:5
Oats	Time oats will last horse	176:19
Oats	Number bushels oats in bin partly filled	224:5
Rice	Cost	109:6
Rice	Amount bought	111:4
Wheat	Cost	33:2
Wheat	Time to thresh given amount	74:10
Wheat	Amount neighbor has	87:37
Wheat	Time for grinding amount	118:38
Wheat	Average yield per acre	127:36
Wheat	Value of bin of wheat	138:7
Wheat	Cost of freight on carload	160:20
Wheat	Value of wheat per acre	161:29
Wheat	Number bushels wheat in ton	177:24
Wheat	Number bushels of wheat can be shipped in car	225:9

Subject Matter	Situation	Index
Food		
Grain:		
Wheat	Per cent of gain or loss in buying and selling	251:10
Wheat	Per cent of gain of sale of carload	254:9
Wheat	Commission due agent on purchase of wheat	257:2
Wheat	Net proceeds on sale of wheat	257:10
Wheat	Number bushels in bin	379:10
Groceries	Cost	110:15
Groceries	Amount bought	111:12
Groceries	Cost less discount	148:12
Groceries	Gain	156:16
Groceries	Write receipt for	157:2
Groceries	Write bill and receipt for groceries	170:2
Ice-Cream	Amount sold in one day. Change 127 pints to gallons	179:1
Lard	Cost	109:5
Oysters	Amount to fill tub	79:17
Macaroons	Number pounds imported	274:8
Meat	Number pounds imported meat	170:4
Meat	Quantity of meat bought	111:9
Meat:		
Beef	Cost	109:14
Chicken	Number pounds sold	85:19
Steak	Amount bought	85:17
Turkey	Amount bought	25:14 118:35
Molasses	Cost	61:1

Subject Matter	Situation	Index
Food		
Nuts:		
Chestnuts	Selling price	117:34
Chestnuts	Number quarts can be bought for given sum	180:23
Chestnuts	Gain in buying and selling	187:8
Soda	Gain in buying and selling 4 ounce packages in 1 ton, 3 cwt., and 75 pounds	180:28
Sugar	Amount bought	111:2-3
Sugar	Amount of gain in buying and selling	191:36
Sugar	Gain per pound on sale	249:2
Sugar Cane	Amount on 19-5/8 acres	68:45
Sugar-(Maple	Value of crop	68:47
Vegetables: Celery	Selling price of potatoes, beans, cabbage, etc.	110:16
Celery	Proceeds from sale	323:7
Corn	Difference between crops raised in Missouri and Iowa	22:4
Corn	Cost of freight on corn	28:21
Corn	Weight	28:22
Corn	Number bushels bought	43:9
Corn	Value of carload	62:16
Corn	Value	88:48
Corn	Cost of carload	189:17
Corn	Gain in selling	189:19
Corn	Cost	109:13

Subject Matter	Situation	Index
Food		
Vegetables:		
Corn	Number bushels in pile	381:6
Corn	Number bushels corn required to fill freight car capacity of 60,000 pounds	189:15
Corn	Charges per bushel of corn	189:16
Potatoes	Number of bushels raised in 10 rows, average 7 bushels	25:3
Potatoes	Cost 147-1/2 bushels at $ .85 a bushel	62:8
Potatoes	Number bushels after sale of two parts	79:29
Potatoes	Number bushels produced to acre	86:32
Potatoes	Cost 44 bushels at .25 per bushel	109:1
Potatoes	Number required to plant 8-7/8 acres potatoes	122:3
Potatoes	Cost 7-1/2 bushels if 2/3 bushels cost .40	162:41
Potatoes	Gain in buying and selling	180:21
Potatoes	Cost of 30 bushels	339:15
Potatoes	Gain per cent on sale	406:4
Fruit	Receipted bill for it	170:3
Fruit	Cost	248:15
Fruit	Amount of loss	249:3
Fruit:		
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Watch	Time gained in three weeks	122:1
Watch	Cost	236:51
Water	Number of kiloliters of water contained in a swimming pool	44:97

Subject Matter	Situation	Index
Water	Amount used in two 90 days	65:48
Water	Weight of barrel	82:64
Water	Amount pumped from coal mine	122:7
Water	Gallons of water in tank when half full	140:36
Water Rain	Cubic inches and number gallons that fell on lot 25 x 100	133:10
Rain	Number of barrels of water that fell on a certain flower plot	223:5
Water	Weight of water used and volume in cubic feet -- 900 gallons registered by meter	224:1
Water	Weight of water that fell on roof 20 x 30 feet. Rainfall was 9.5 inches	224:3
Water	Number of barrels in pool	224:4
Water	Number of gallons of water in cistern	225:7
Water	Amount of water in tank and estimate to weight	227:16
Water	Amount of water in a tank and estimate weight	229:43
Water Lead	Cost of lead for lining tank	230:48
Water Tank	Height of water tank	379:7
Water	Compare flow of water through two pipes	381:10
Water	Number of liters in	390:1
Water	Number of liters in cylindrical tank and estimate weight in metric tons	390:2
Water	Number of liters fell on three hectares of land	390:4
Water	Change cubic meter water to liters	391:9
Water Surface	Water surface of D. of C. knowing that land surface 60 square miles is 500% greater	245:15
Water	Contents in kilometers of a R.R. tank	419:139
Water	Cubic inches of water cylinder will contain	381:7

Subject Matter	Situation	Index
Weights	Ratio of weight of objects to weight of same volume of water	380:3
Well (Artesian)	Number barrels flowing out per hour	381:1
Wheel	Number revolutions turns in a mile	106:44
Wheel	Number revolutions	138:5
Wheel	Number revolutions in 12 miles	187:9
Wheel	Number revolutions of wheel moving certain distance	228:27
Wire	Amount when cost given	118:40
Wire	Length of wire in fence enclosing square field	186:5
Wire	Length of wire drawn from copper ingot containing 1 cubic foot	381:4
Wood	Cost	79:27
Wood	Number cubic feet in a cord	86:27
Wood	Number cords in pile	137:1
Wood	Number of cords men will cut and wages received	137:2
Wood	Number of cords and cost of pile	137:3
Wood Pile	Number of cords in pile (cubic feet)	215:11-12
Wood Pile	Number of cords in each pile and value of the wood	215:14
Wood Pile	Number of cords in each pile and value of the wood	215:15-16-17
Words	Mispelled	146:25
Words	Per cent of words spelled correctly	242:18
Words	Per cent of words spelled correctly	242:23
Work	Time to build wall	78:10

Subject Matter	Situation	Index
Work	Amount time required do do it	82:57
Work	Time required	87:34
Work	Time to dig ditch	87:39
Work	Time to complete	89:63
Work	Amount done in different times	89:68
Work	Number of rods man can dig in six days	121:14
Work	Amount each of two men can do in one day	235:45
Work	Amount two men can do on one day, working together	236:46
Work	Number days required for two men to do certain work	236:47
Work	How many can one man do it in	236:48
Work	Time it will take two men to do work	236:49
Work	Time five men can do work in	236:50
Work	Time in which three men together can do a piece of work	236:55
Work	Time it will take 15 men to build bridge	339:14
Work	Number of days to do work	340:24
Work	Time it would take men to finish work	347:23
Work	Time required for twenty men to build embankment	348:30
Work	Time to do -- 2 men together	406:5
Work	Cost of wood	137:4
Work	Number cords	137:5
Work	Value	165:82

Subject Matter	Situation	Index
Work (Cleaning)	Cost to clean paper	340:18
Work (Grading)	Number of days required to grade street	339:16
	Number of Problems - Grand Total	1697

TABLE XXXIII

FREQUENCY OF OCCURRENCE OF SITUATIONS BY SUBJECT MATTER

IN HAMILTON'S COMPLETE ARITHMETIC - 1908

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Age		9													1						
Agricultural Prob.																					
Feed																					
Fertilizer									1			1									
Bone Meal																					
Kerosine		2										1									
Lime-Sulphur												1									
Manure		2																			
Nitrogen		1																			
Nutrients		14																			
Potash		1																			
Ration																					
Spraying												3									
" Materials		1										3									
Air		3																			
Animals									1			2									
Cows																					
Horse									1			4			1						
Sheep																					
Article												11									
Automobile												1			1		1				
Ball													1	2							
Bar																					
Barrels																					
Bicycle												1									
Bin		1											2								
Binders																					
Blackboard												1									
Blankets																			1		
Boardwalk																					
Total		54							3			29	3	2	3		1		1		

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
																							10
							1			11													12
																			1				3
																			1				1
																							3
																							1
						1													1				4
																							1
																							14
																							1
										6													6
4																			1				8
																							4
						1																	4
						1							1										5
						1																	1
													2						1				9
						3																	3
							1	2					2										16
					2				1				1										7
																							3
				2																			2
						1																	1
																							1
				1		1																	5
													1										1
																							1
																							1
				1																			1
4				4	2	9	2	2	1	17			7						5				129

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Boiler		1																			
Books												3									
Box													4		2						
Brick												5								4	
Bridge																					
Buggy												3									
Building												1									
Cellar						1															
Cement												3									
Cementing												3									
Cigars																			1		
Cistern																					
Clay																					
Clocks																			1		
Cloth								1				4									
Calico		1																			
Carpet		2										5			1				1	1	
Cheesecloth												1									
Flannel		1																			
Gingham		1																			
Lace		1																			
Linoleum												1									
Matting												1									
Ribbon		3										1									
Silk												3									
Suiting												1									
Clothing												2									
Caps												1									
Coat												1									
Collars			1																		
Total		10	1			1		1				39	4		3				3	5	

Situations by Subject Matter 300

Arithmetic - 1908

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
																							1
2						3							2									1	11
				4			2	1															13
						1																	10
1																							1
1																							4
																							1
				1																			2
																							3
																							3
																							1
	1					2																	3
																				1			1
																							1
					1								1										7
													1										2
						3																	13
																							1
																							1
																							1
																							1
						1																	2
																							1
																							4
1													1										5
																							1
																						2	4
																							1
																							1
																							1
5	1			5	1	10	2	1					5							1		3	101

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Clothing																					
Hats					1																
Neckties												1									
Shoes									2			2									
Suits									2			5									
Coal		5							1		1	5								1	
Columns																				1	
Cone													1								
Concrete		1										1								1	
Cork																					
Cotton		1										1									
Crate													2								
Cube						1							1		1						
Diagonal															2						
Diamonds																			1		
Ditch												1									
Distance		29													1		2				
Drills												1									
Earnings		3																			
Earth		1																			
Electricity												1									
Employees																					
Envelopes												1									
Estate											1										
Examination Question																					
Excavating												11	1								
Expenses		3																			
Fence												6			1		1				
Total		43			1	1			5		2	36	5		5		3		1	3	

Situations by Subject Matter

Arithmetic - 1908

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
1																							2
																							1
1																1							6
																							7
2					1	2							1							1			20
																							1
																							1
						2																	5
																				2			2
																			1				3
																							2
				2																1			6
				1																			3
																							1
																							1
						10					4												46
																							1
																							3
																							1
																							1
						1																	1
																							1
														1					1				3
							1																1
	2			1		4										1							19
																							3
						2																	10
4	2			4	1	21	1				4		1	1		1			2	4			151

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Field																	1				
Flower Bed						2												1			
Flooring		2																			
Floors						2												1			
Food-Beverages																					
Cocoa																			1		
Coffee			1									1									
Milk		1	3		1							3									
Butter		1	1		1							4							1		
Candy																					
Cheese												1									
Eggs		1							1			4									
Grain		1																			
Flour											1	1									
Oats		1										2									
Rice		1										1									
Wheat		2									1	3									
Groceries			1									2									
Ice Cream		1																			
Lard												1									
Oysters		1																			
Macaroons		1																			
Meats		1	1																		
Beef												1									
Chickens		1																			
Steak			1																		
Turkey			2																		
Molasses												1									
Nuts		1							1												
Soda									1												
Sugar		1	1						1												
Total		17	11		2	4			4		2	25					1	2	2		

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
																							1
																							3
																							2
																							3
																							1
																							2
													1							3			12
1																							9
						1																	1
																							1
1													3										10
																							1
1													1							1			5
											1						2						6
																							2
2					1	2											2		2				15
1																						2	6
																							1
																							1
																							1
																							1
																							2
																							1
																							1
																							1
																							2
														1									3
																							1
1																			1				5
7					1	3					1		6				4		3	4		2	101

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Food																					
Vegetables_Celery																					
Corn		2	1									4			1						
Potatoes		4							1			4									
Fruit		1										1									
Apples			1				1				1	10									
Bananas			1																		
Berries		1			2							1									
Cherries												1									
Lemons					1																
Oranges									2			2									
Peaches					1																
Prunes												1									
Fountains						1															
Furniture_Rug																					
Stoves												1	1								
Gas												2									
Gasoline			1																		
Glass														1					1		
Glasses																					
Globe												1	1								
Gliding												1									
Goods							1		2			10				5			2		
Grips															1						
Gunpowder		1																			
Hay		1			1							2									
Hardware												2									
Harness																					
Hedge																1					
Total		10	4		5	1	2		5		1	43	2	1	2	6			3		

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
													1										1
1																			2	1			12
1																							10
																						1	3
1								1			1		4										20
																							1
													1										5
																							1
																							1
1							1																6
																							1
																							1
																							1
																					1		1
													1										3
						1																	3
																							1
																							2
													1										1
																							2
																							1
6					2					1			4				1		5			2	41
																							1
																							1
	1																		1				6
																						4	6
																						1	1
																							1
10	1				2	1	1	1		1	1		12				1		8	1	1	8	134

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Hill																				
Hops																		1		
Hose											1									
Ice																				
Insurance Life	2										4									
" Property	12																			
Implements											1									
Ivory																				
Kalsomining											2									
Knives											1									
Laborer																				
Ladder																				
Land-School Grounds															1					
Land	4														1					
Laths	1										1									
Lawn					1															
Leather																		1		
Letters	2																			
Line																				
Loaves	1																			
Locomotive																				
Longitude																1				
Lumber	1										22									
Planks					1						3									
Girders											1									
Molding											2									
Plate Rail											1									
Total	23				2						39				2	1		2		

Situations by Subject Matter

Arithmetic - 1908

Gain Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
1																						1
																						1
																						1
																			3			3
						2																8
				3				7										2				24
																						1
																			1			1
																						2
																						1
					1																	1
			1																			1
			1																			2
																						5
																						2
																						1
																						1
																						2
			2																			2
																						1
																			1			1
																						1
					39														1	1		64
																						4
																						1
																						2
																						1
1			4	3	43	2		7										2	6	1		135

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Machinery											1										
Mail																					
Measures		3				3							6								
Men																					
Metals-Copper																					
Gold						1															
Iron		1										1									
Lead												1									
Mercury																					
Nickel																					
Ore		1																			
Silver												1									
Steel																					
Tin																					
Mohair		1																			
Money		43		4								6	2								
Bills		3																			
Bonds		5										2									
Capital		10																			
Cash Acc't		11																			
Checks																					
Ledger Account																					
Receipt																					
Statement																					
Commission		1									22										
Debts		6																			
Deposit		3																			
Discount		5													2	3					
Draft		15									1	12			1	1					
Interest		8													1						
Investment		4													2						
Total		120		4		4					24	23	8		6	4					

Situations by Subject Matter

Arithmetic - 1908

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
																				1			1
																				1			1
2				2													1						17
						5																	5
																				1			1
																				3			4
													1						1	2			6
																				2			3
																				1			1
																				1			1
1						1														2			5
																				3			4
																				1			1
																				1			1
																							1
						1					6			1		1			3			2	69
																							3
						1	3			7													18
																							10
																							11
																						3	3
																						2	2
																						11	11
																						3	3
							2																25
							4																10
																							3
1							3	2															16
																							30
1			10						3					1			5						29
1			1				2																10
6			11	2		8	14	2	3	7	6		1	2		1	6		4	18		21	305

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Money																					
Notes		50													2	2					
Partnership																					
Rent		4																			
Savings		15																			
Stock		22										4									
Taxes		7																			
Wages		35													2						
Mountain																					
Monument																					
Numbers		3													2						
Oil		1										1									
Organ												1				1					
Pail						1															
Painting												13									
Paper		4																			
Pencils												1									
Piano												4				1					
Picture												1									
Plastering						3						5									
Pole																					
Population		2													1						
Postage												1									
Prisms						2															
Pupils																					
Pyramid						3															
Property		2										2									
Personal		1													1						
Total		146				9						33			8	4					

Situations by Subject Matter

Arithmetic - 1908

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
			5				2										1		8			3	73
3														17									20
									1														5
							1																16
5					1	7	4		2				1										46
							1		3							9			1				21
									1														38
	1																						1
	2																						2
																							5
2						1																	5
																							2
																							1
																							13
1																							5
						2																	3
													1										6
																							1
																							8
	1																						1
	1																						4
																							1
																							2
						12	1																13
																							3
2								3											3				12
														2									4
13	5		5		1	22	9	3	7				2	19		9	1		12			3	311

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Property																					
Real		1																			
Estate																					
Factory																					
Farms		1										3			1						
Real-Farm						3						3						1			
Field						6											3				
House		3										2									
Land						1						2			1						
Real-Land		2	1			5						6				1		1			
Real-Lawn						2															
Real-Lots			2						1			5									
-Mill												1									
-Mine																					
Oil-Prop												1									
Store												1									
Railroad						1															
Rails												2									
Rectangle																		1			
Register																		1			
Roller						1															
Roofing-Slates		2										1									
Shingles												2									
Room																	1				
Sewing Machines												1									
Schooling												1									
Shed																					
Ship																					
Shovels			1																		
Totals		9	4			19			1			31			2	1	4	4			

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
																							1
														2					1				3
																			1				1
						1							1						2				9
2				1	1	6	2						3						1		1		24
				2																	3		14
2					1				1										2				11
1						1							1										7
2	1												2	1					2		2		26
																							2
2					1	2																	13
													1						2				4
														1					1				2
																							1
1													1						2				5
																							1
																				1			3
				1																			2
																							1
																							1
																				1			4
						2																	4
																							1
																							1
																							1
																	1						1
																				2			2
																							1
10	1			4	3	12	2		1				8	4			1		14	4	6		146

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Silo		1				1							1								
Skates																				1	
Sleds												1									
Soap																					
Sodding												1									
Solids														1							
Sound																					
Spading												1									
Sphere													1								
Square																1					
Stationery												1									
Steam Boiler						1															
Stone													1								
Granite																					1
Marble																					
Sandstone																					
Stonework																				1	
Stonewall												1							1		
Storm																					
Street						2											1				
Curbing												1									
Paving												3									
Tablets												1									
Tanbark																					
Tanks						1							5								
Teaspoons																					
Tickets												1									
Tiles		1										1									
Tin Plate		1																			
Tinning												1									
Total		3				5						13	8	1		1	1		1	2	1

Arithmetic - 1908

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
																							3
																							1
																							1
						4																	4
						1																	2
																						1	2
																	1						1
																							1
																							1
				1																			2
																							1
																							1
							1													2			4
																				1			2
																				1			1
																				1			1
																							1
																							2
																	1						1
																							3
																							1
														1									4
1																							2
						1																	1
		1															1						8
																				1			1
						1																	2
						4																	6
																							1
																							1
1		1		1		11	1							1			3			6		1	62

Table

Frequency of Occurrence of

In Hamilton's Complete

Subject Matter	Situation	Amount	Amount Bought	Amount Change	Amount Sold	Area	Barter	Bought	Buying & Selling	Circumference	Commission	Cost	Cubic Contents	Diameter	Difference	Discount	Distance	Draw	Duty	Estimate	Fraction
Time															10						
Train												1					1				
Trees																					
Trench																					
Triangle						1															
Trough													1								
Tuition		1																			
Vessel																					
Votes																					
Wagon												2									
Walk						2						2									
Wall																		1			
Watch												2									
Water		3				1						1	9							2	
Weights																					
Well																					
Wheel																					
Wire		1																			
Wood												1									
Words																					
Work		4										1									
Total		10				4						11	10		10	1	1			2	

Gain	Height or Depth	Insurance	Interest	Length	Loss	Number	Percent	Present Worth	Rate	Ratio	Reduce	Rent	Selling Price	Shares	Sum	Taxes	Time	Travelled	Value	Weight	Width	Write	Total
						3											13						26
									2								2						6
						2																	2
				1																			1
				1																			2
																							1
																							1
									1														1
						1																	1
																				1			3
																							4
																							1
																	1						3
	1										2									4			23
										1													1
						1																	1
						4																	4
				2																			3
						10																	11
						1	2																3
						3											15		1				24
	1			4		25	2		3	1	2						31		1	5			122

GRAND TOTAL 1,697

Table XXXIV

This table is a Summary of Table XXXIII
According to Specific Situations

Amount Situations	Totals
Amount or Quantity	426
Difference	29
Fraction	2
Number	166
Shares	27
Grand Total	650

Measuring Situations	Totals
Area	50
Cubic Contents	39
Diameter	13
Distance	12
Height or Depth	8
Length	28
Rate	22
Reduce	14
Ratio	27
Weight	47
Width	8
Grand Total	268

Money Situations	Totals
Gain	59
Interest	16
Loss	14
Percent	34
Present Worth	10
Tax	11
Value	52
Grand Total	196

	Totals
Draw	7
Estimate	12
Write	38
Grand Total	57

Buying Situations

	Totals
Amount Bought	20
Amount of Change	4
Bought	1
Cost	322
Grand Total	347

Selling Situations

	Totals
Amount Sold	8
Selling Price	42
Grand Total	50

Buying & Selling Situations

	Totals
Barter	5
Bought & Sold	18
Commission	29
Discount	18
Duty	12
Grand Total	82

Time Situations

	Totals
Time	47

Table XXXV

Showing the Number of Places in Given Figures of the Problems as Stated but not Solved in Hamilton's Complete Arithmetic - 1908

Number of Places	Frequency	Percentage
0 Places	47	2.9
1 Place	97	5.8
2 Places	525	31.0
3 Places	491	29.0
4 Places	382	22.0
5 Places	104	6.1
6 Places	29	1.1
7 Places	14	.9
8 Places	3	.1
9 Places	5	.2
Total	1,697	99.1

Table XXXVI

Showing the Number of Places in the Decimals in Problems as Stated but not Solved in Hamilton's Complete Arithmetic -- 1908

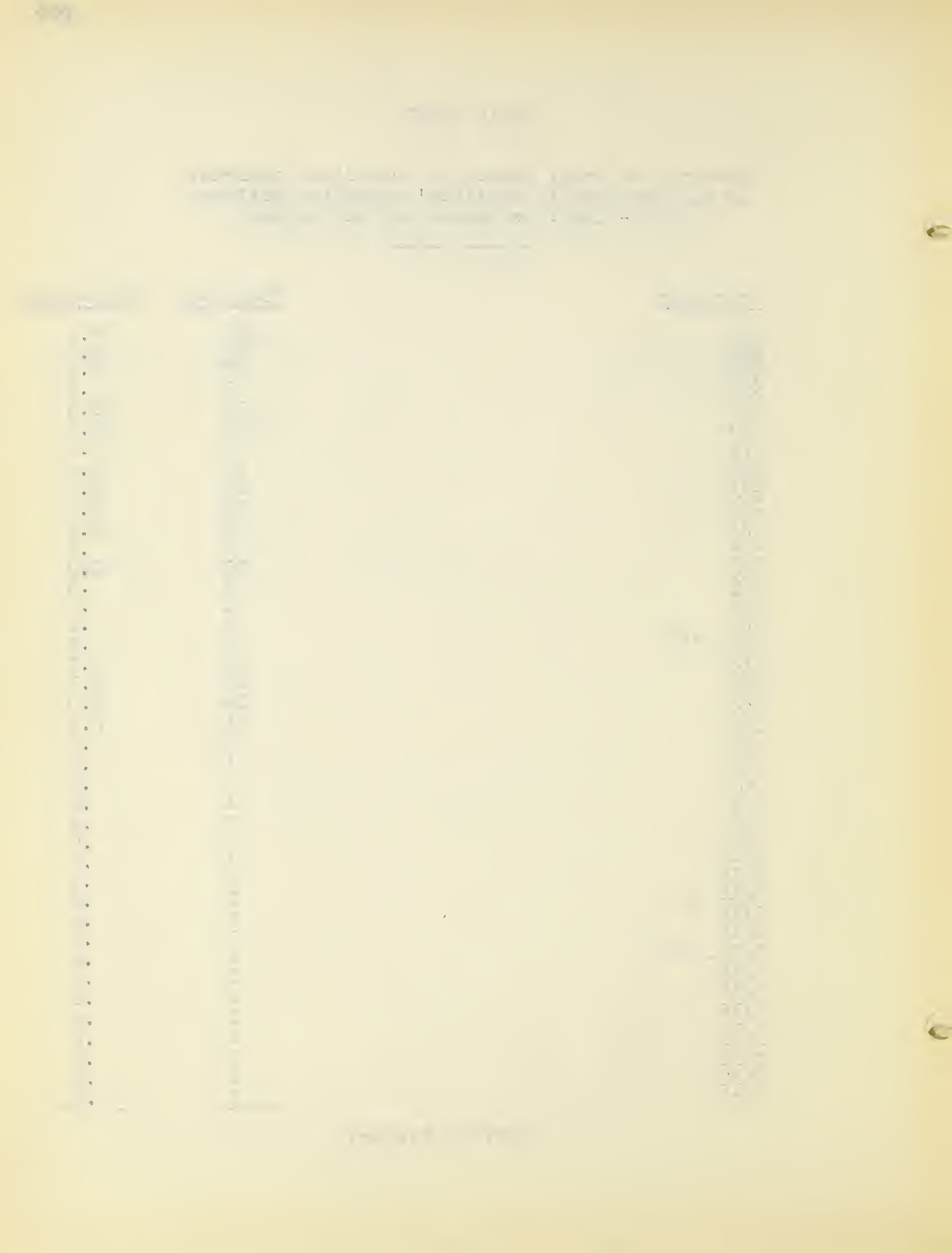
Decimal Places	Frequency	Percentage
1 Place	55	8.2
2 Places	576	85:5
3 Places	31	4.8
4 Places	2	.3
Grand Total	664	98.8

Table XXXVII

Showing the Total Number of Fractions Occurring In All Problems in Hamilton's Complete Arithmetic - 1908, as Stated but not Solved

Fractions	Frequency	Percentage
1/2	188	27.8
1/3	39	5.7
2/3	37	5.4
4/3	1	.2
1/4	71	10.5
3/4	105	15.5
9/4	1	.2
1/5	11	1.6
2/5	19	2.8
3/5	24	3.5
4/5	15	2.2
6/5	1	.2
1/6	11	1.6
5/6	4	.6
1/7	1	.2
2/7	3	.4
3/7, 4/7	4	.6
6/7	22	3.1
1/8	15	2.1
3/8	14	2.0
5/8	21	3.1
7/8	2	.3
9/8	1	.2
4/9	4	.6
5/9	1	.2
7/9	3	.4
8/9	5	.7
1/10	1	.2
2/10	3	.4
3/10	1	.2
7/10	6	.8
9/10	1	.2
7/11, 8/11	2	.4
1/12	1	.2
5/12	4	.6
7/12	1	.2
9/12	1	.2
11/12	3	.4
9/13	1	.2
2/15	1	.2

Carried Forward

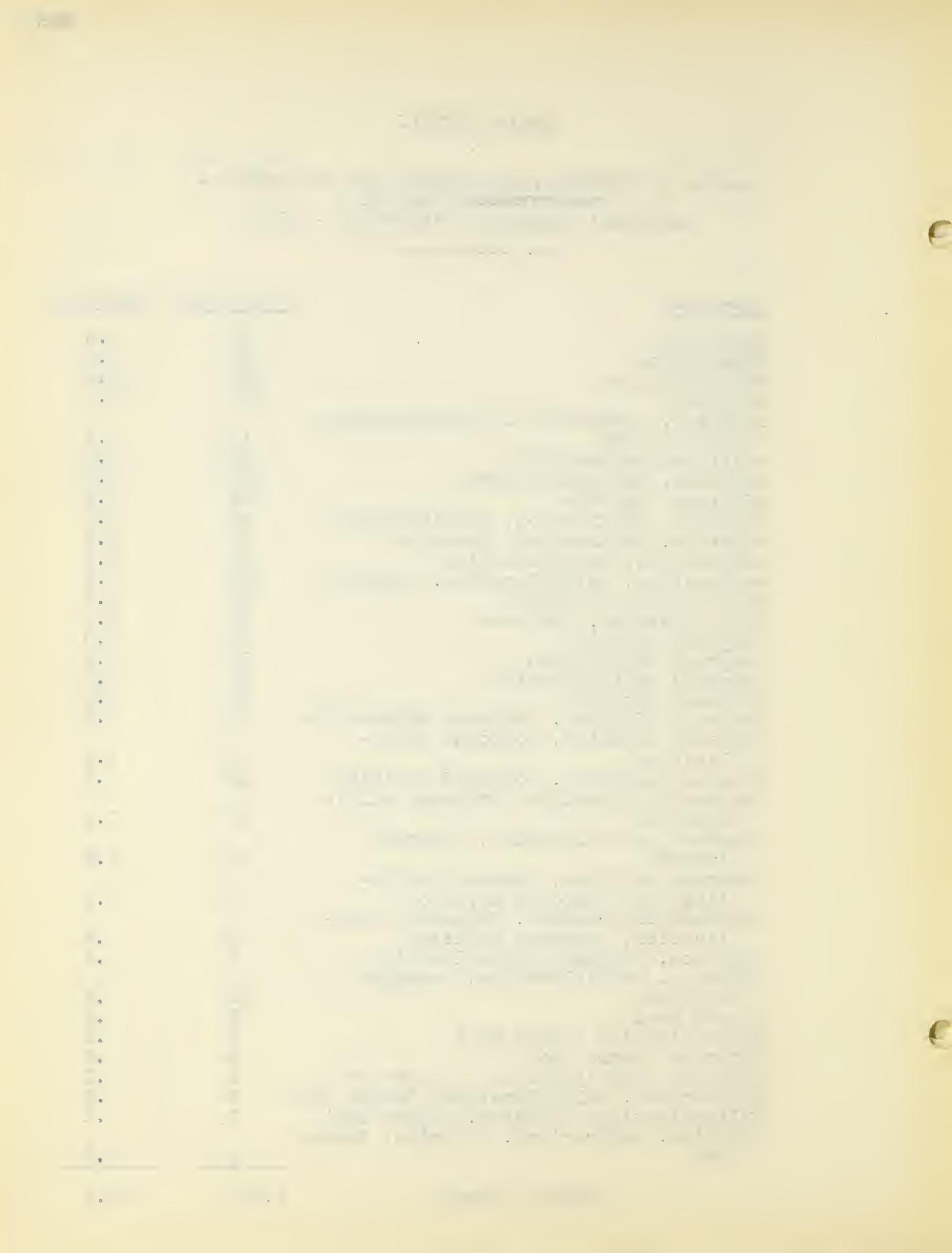


Fractions	Frequency	Percentage
Brought Forward		
4/15	2	.3
7/15	2	.3
1/16	1	.2
3/16	4	.6
5/16	1	.2
9/16	2	.3
9/17	1	.2
5/18, 7/18	2	.4
3/20	2	.3
1/21	1	.2
23/24	1	.2
11/30	1	.2
1/1,000	1	.2
Total	674	100.00

Table XXXVIII

Number of Problems, Distributed on the Basis of the Processes Used in Hamilton's Complete Arithmetic - 1908

Processes	Frequency	Percentage
Addition	60	3.6
Subtraction	28	1.8
Multiplication	391	23.0
Division	273	16.0
Addition, Subtraction, Multiplication, and Division	19	1.1
Addition, Subtraction	49	3.0
Addition, Multiplication	108	6.3
Addition, Division	54	3.2
Addition, Subtraction, Multiplication	46	2.9
Addition, Subtraction, Division	17	1.1
Subtraction, Multiplication	98	5.1
Subtraction, Multiplication, Division	149	8.9
Subtraction, Division	46	2.1
Multiplication, Division	51	3.0
Compound Addition	80	4.9
Compound Subtraction	17	1.1
Compound Multiplication	21	1.2
Compound Division	16	1.0
Compound Addition, Compound Subtraction	19	1.1
Compound Addition, Compound Multiplication	16	1.2
Compound Addition, Compound Division	15	.8
Compound Subtraction, Compound Multiplication	17	1.1
Compound Multiplication, Compound Division	31	1.9
Compound Addition, Compound Multiplication, Compound Division	8	.4
Compound Subtraction, Compound Multiplication, Compound Division	5	.2
Addition, Compound Multiplication	7	.4
Addition, Multiplication, Compound Division	10	.5
Square Root	8	.4
Multiplication Square Root	5	.2
Division Square Root	4	.2
Addition, Multiplication, Square Root	2	.1
Subtraction, Multiplication, Square Root	3	.1
Multiplication, Division, Square Root	3	.1
Addition, Subtraction, Division, Square Root	4	.2
Carried Forward	1,680	98.2



Processes	Frequency	Percentage
Brought Forward	1,680	98.2
Subtraction, Multiplication, Division, Square Root	2	.1
Subtraction, Division, Square Root	2	.1
Addition, Subtraction, Multiplication, Square Root	2	.1
Cube Root	7	.4
Cube Root, Multiplication	4	.2
Total	1,697	99.1

Table XXXIX

Problems and Examples Already Solved
in Hamilton's Complete Arithmetic

Number solved, no answers given	8
Number solved with answers given	207

From this table one notes that .001 are solved with no answers given, and .042 are solved with answers given, leaving .957 or 96% of the work to be done by the pupil.

Table XL

Analysis of Pages in Hamilton's Complete Arithmetic
1908

	Pages	Inches	Pages
Title Page	1		
Name of Book		¼	.14
Name of Author		⅛	.27
Publishers		¼	.14
Copyright	2	¼	.14
Preface	3,4	7-5/8	.76
Contents	5,6	11¼	1.84
Arithmetic Text Pages	7-432	11½	426.75
Reference Tables of Measures	436		3.72
Index	440		3.75
Answers	463		22.67
Blank Pages			2.92
	Grand Total		463.00

Analysis of Pages in Hamilton's Arithmetic
Already Included in Table XL

	Pages
Tables Arithmetic	7.01
Illustrations Arithmetic	8.42

CHAPTER V

New Day Arithmetic - Elementary Book

By

Durell, Gillet, Durell

Published by

Charles E. Merrill Company, 1930

Table XLI

Topics or Processes Under Which Problems and Examples are Classified in New Day Arithmetic (Elementary) 1930

Topic or Process	Number of Examples	Number of Problems
Addition	1,510	354
Subtraction	1,143	267
Multiplication	1,230	409
Division	1,883	318
Multiplication and Division	0	28
Questions	10	159
Count, Draw, and Write	130	42
Read	30	0
Fractions (All Processes)	365	119
Total	6,301	1,696

Table XLII

Problems Analyzed in Relation to
Subject Matter and Situation
New Day Arithmetic - Elementary Book
By F. Durell, H. Gillet, T. J. Durell - 1930

Subject Matter	Situation	Index
Absences	Number absences from school in a week	53:11
Age	Jack's age 3 years hence	52:1
Age	of Jack's father	89:7
Age	Your age 15 years hence	181:7
Age	Of Henry	418:5
Ages	Difference in ages of boy and his sister	11:4
Ages	Difference in ages of a pair of twins	38:5
Ages	Difference in ages of father and daughter	94:4
Ages	Difference in ages of Henry and Mary	421:5
Airplane	Distance flown in 2 days	68:1
Airplane	Distance flies	149:6
Airplane	Distance traveled between 2 cities	279:11
Airplane	Distance traveled in March	284:4
Airplanes	Cost	181:2
Animals		
Birds	Number fed on school windown sill	6:3
Birds	Value of 10 canaries	305:8
Chickens	Number girl has	19:4
Chickens	Number Mr. Black has	60:5
Chickens	Number alive	88:2
Chickens	Number	132:4

Subject Matter	Situation	Index
Animals		
Chickens	Number Mary had	221:2
Chickens	Number sold	221:3
Chickens	Selling price of each	350:9
Chickens	Number pounds and money sold for	397:4
Chicks	Total number	17:8
Chicks	Estimate number unsold	430:7
Dog	Weight	424:8
Goldfish	Number girl had	33:7
Hens	Selling price of one	358:2
Rabbits	Number George has	17:6
Robins	Number 2 girls saw	19:5
Automobile	Distance traveled	68:2,4
Automobile	Distance traveled	149:4
Automobile	Number miles traveled	186:6
Automobile	Cost of car and extra tire	239:7
Auto	Distance driven in 3 years	239:8
Auto	Cost	239:9
Auto	Miles traveled	271:7
Auto	Distance traveled	278:2
Auto	Distance goes in 14 hours	284:10
Auto	Cost of driving given number miles	295:3
Auto	Distance traveled after lunch	300:2
Auto	Value	320:12
Auto	Distance goes on 15 gallons gasoline	333:9

Subject Matter	Situation	Index
Auto	Distance goes per gallon	333:10
Auto	Cost of running car first year	338:10
Auto	Distance traveled on gallon of gasoline	356:3
Auto	Number hours to go 300 miles	357:8
Auto	Distance traveled one day	359:10
Auto	Distance traveled in 1 week	389:7
Auto	Distance left to travel	424:1
Auto	Gain buying and selling	434:11
Autos	Number passing house	186:1
Autos	Number passed house	193:1
Autos	Number passing house	389:2
Ball	Cost of ball and glove	69:3
Ball	Cost	180:3
Ball	Cost of ball, and glove	188:5
Ball	Is cost of ball, glove and bat more or less than $5,00	430:2
Balls	Cost	180:1
Balls	Cost of 5 basket balls	196:1
Balls	Cost	277:4
Balls	Cost	387:9
Balls	Cost	387:11
Balls	Draw to show fractional parts	411:4
Baseball	Each of 4 boy's share of cost	144:6
Baseball	Money needed to buy	181:5
Baseball	Cost	278:6

Subject Matter	Situation	Index
Baseball	Distance thrown by 2 boys compared	389:9
Bat	Money boy must save to buy bat	96:6
Bat	Amount needed to finish buying a bat	191:4
Beads	Number lost	89:11
Beads	Money made buying and selling beads	96:8
Beads	Number	149:3
Bicycle	Cost	267:6
Bicycle	Buying and selling difference in cost and selling price	267:9
Bicycle	Amount needed to finish buying	272:10
Bicycle	Cost	301:8
Bicycle	Buying and selling amount of gain	392:6
Bicycle	Difference in cost of 2	246:6
Blocks	Number used for each of 3 houses	119:8
Book	Amount of change when buying	259:6
Book	Gain when buying and selling	363:6
Book	Times took Ruth to read	417:3
Book	Time to finish reading	431:2
Book	Amount change when buying	259:3
Books	Number on shelves	60:2
Books	Number in school library	91:1
Books	Number after each child has book	91:2
Books	Number new books this year	91:3
Books	Number in E's father's bookcases	186:3
Books	Cost of 4 school books	222:2
Books	Number school ordered	235:2

Subject Matter	Situation	Index
Books	Cost	236:9
Books	Cost	242:4
Books	Number added to library in 1 year	253:7
Books	Number still usable	255:9
Books	Cost of school books	291:1 292:8
Books	Cost of 105	305:9
Books	Cost	310:9
Books	Number given for library	310:5
Books	Cost	320:9
Books	Cost and amount of change	393:4
Books	Questions about	411:5
Candles	Number on boy's birthday cake	19:2
Cards	Cost	314:4
Circle	Draw and color to show different fractions	404:4-6
Circles	Questions about fractions of 407	407:7
Circles	Draw to show fractional parts	414:1,2 416:1,3
Clocks	Compare 2 pictures of clocks	13:1
Clocks	Location of hands at different times	13:2
Cloth	Cost	197:3
Cloth	Width in inches	207:2
Cloth	Cost	275:9,16
Cloth	Cost	278:3
Cloth	Cost per yard	350:3

Subject Matter	Situation	Index
Cloth	Number yards in 2 pieces	387:8
Cloth	Cost of cloth and thread	394:1
Cloth	Amount unsold	419:5
Cloth	Amount bought	424:3
Cloth	Amount sold	426:1
Cloth	Amount unsold	426:3
Cloth	Cost	427:9
Cloth	Cost and amount of change	427:11
Cloth	Amount unused	428:6
Cloth		
Carpet	Cost	335:7
Gingham	Cost and number yards bought	427:5
Gingham	Amount bought	427:8
Gingham	Cost and amount of change	427:10
Gingham	Amount unused	433:1
Gingham	Cost of gingham thread	433:6
Linen	Cost	207:4
Linen	Amount unused	393:3
Linen	Amount unused	424:4
Linen	Number yards bought	418:6
Linen	Amount for suit	427:6
Linen	Cost	427:7
Muslin	Cost and amount of change	427:4
Napkins	Cost	273:2
Ribbon	Number pieces cut off	173:6

Subject Matter	Situation	Index
Cloth		
Ribbon	Cost	197:7
Ribbon	Length in feet	207:1
Ribbon	Cost	207:6
Ribbon	Cost	314:9
Ribbon	Number yards not cut off	363:4
Ribbon	Cost of ribbon and buttons	394:2
Ribbon	Cost	398:3
Ribbon	Number yards bought	398:5
Ribbon	Number yards bought	418:8
Ribbon	Cost and amount of change	426:2
Ribbon		
Badges	Number made	138:5
Badges	Number can be cut	328:4
Badges	Number can be made	337:2
Badges	Number cut from yard	384:11
Velvet	Cost per yard	335:3
Clothes-pins	Number dozen bought	389:10
Clothing	Cost of underwear	62:4
Clothing	Cost of stockings	62:5
Clothing	Cost of sweaters for 3 children	63:1
Clothing	Cost of hat and dress	188:8
Clothing	Cost of suit, cap, sweater and shoes	222:1
Clothing	Cost of cap and sweater	233:9
Clothing	Amount to finish buying football outfit	267:12

Subject Matter	Situation	Index
Clothing	Cost of one baseball suit	358:4
Clothing	Cost of baseball suits and shoes for 9 players	394:6
Clothing	Cost of Mary's sweater, umbrella and rain coat	68:5
Clothing		
Aprons	Number unsold	218:14
Aprons	Amount saved by making	393:5
Buttons	Number on card when bought	19:9
Buttons	Part of dozen used	424:10
Buttons	Number unused	432:10
Caps	Cost	308:3
Coat	Change when buying	259:11
Dresses	Number dolls dresses	157:5
Dress	Cost	235:6
Gloves	Cost	314:13
Handkerchiefs	Cost	197:4
Handkerchiefs	Cost	358:6
Handkerchiefs	Cost	387:3
Sheets	Cost	292:13
Shoes	Difference in cost of shoes	95:12
Shoes	Cost of 2 pairs	233:8
Shoes	Amount change when buying	258:1
Shoes	Cost of 3 pairs	275:15
Stockings	Number filled at Xmas	218:13
Sweater	Amount money needed to finish buying sweater	95:9

Subject Matter	Situation	Index
Clothing		
Sweater	Amount of change when buying	259:9
Sweater	Amount of change when buying	272:8
Coal	Weight of 4 loads	243:7
Coal	Cost	292:15
Coal	Cost	306:6
Coal	Cost per ton	350:8
Coal	Cost	381:5,12
Coal	Cost per ton	389:8
Coal	Weight of 4 loads	418:11
Crayons	Draw and add from picture	2:1
Distance	Number miles uncle drove in 2 days	60:6
Distance	Difference in 2 distances	89:10
Distance	Walked to school	217:4
Distance	Difference in distances 2 boys rode	218:12
Distance	Number miles Alice travels	235:4
Distance	Number miles Jane traveled	236:10
Distance	Tom traveled	242:2
Distance	Number miles still to travel	249:10
Distances	Difference in 2 roads from St. Paul to Seattle	272:9
Distance	Traveled on train	275:12
Distance	Amount between 2 places and back	279:12
Distance	Number miles mailman walked in January	283:2
Distance	Tom rode on train	284:6
Distance	Fred traveled	301:13

Subject Matter	Situation	Index
Distance	Number miles to grandmother's and back	306:1
Distance	Mary must travel to reach grandmother's	319:5
Distance	Number feet Jean skated	335:4
Distance	Between 2 houses	338:6
Distance	To travel after lunch	338:8
Distance	Two boys walked	387:1
Distance	George must travel to reach grandfather's	387:7
Distance	Number miles to travel	389:4
Distance	John walked	417:1
Distance	No. miles between homes of 2 girls	424:1,2
Distance	Difference in distances 2 boys can jump	428:2
Distance	Difference in distance from school two live	428:4
Doll	Cost of doll and carriage	233:4 266:4
Doll	Cost of two and two carriages	431:3
Dolls	Number 2 girls have	6:5
Dolls	Number Betty has	17:7
Dolls	Number paper dolls wind blew away	25:7
Dolls	Cost	180:2
Dolls	Difference in cost	434:14
Electricity	Cost after discount deducted	260:8
Electricity	Cost in 4 months	281:9
Electricity	Cost after discount deducted	304:9
Envelopes	Number bought	105:8
Examples	Number arithmetic examples wrong	32:3,4
Examples	Number Margaret did right	42:10

Subject Matter	Situation	Index
Examples	Number done correctly	270:2
Facts	Number class should learn each day	321:6
Fence	Cost	335:2
Flag	Shares of cost of	350:7
Flag	Share of each of scout troop in cost of flag	359:9
Food	Cost of breakfast	53:10
Food	Cost of potatoes and eggs	64:4
Food	Cost of cake and bread	65:16
Food		
Bakery		
Bread	Buying loaf, change from 10¢	11:1
Bread	Cost of 2 loaves	103:10
Bread	Number loaves bought	106:6
Bread	Cost	111:3
Bread	Number slices in 1 loaf	119:6
Bread	Cost	134:4
Bread	Cost	147:1
Bread	Cost	181:3
Bread	Cost	183:12
Bread	Cost and amount of change	392:1
Cake	Time it is baked	374:1
Cake	Amount left uneaten	401:7
Cake	Cost of 3/4 of it	428:5
Cakes	Difference in number ordered and number sent	219:18
Cakes	Cost	260:2

Subject Matter	Situation	Index
Food		
Bakery		
Cakes	Cost	278:1
Cakes	Cost	314:7
Cakes	Cost	319:1
Cakes	Cost	361:11
Cookies	Draw and add	2:4
Cookies	Number boy left in jar	25:3
Cookies	Number cookies bought for third party	55:5
Cookies	Cost	103:8
Cookies	Number bought	106:2
Cookies	Cost	134:1
Cookies	Number each of 8 girls gets	138:8
Cookies	Number made	274:1
Cookies	Draw and find number not eaten	8:1
Crackers	Shares of each of 2 children	119:5
Crackers	Cost	147:6
Pie	Amount left	406:4
Pies	Number baker sold	25:5
Pies	Number pieces	148:3
Pies	Number unsold	88:1
Rolls	Cost	119:4
Beverages		
Coffee	Cost	147:9
Coffee	Cost of 6 pounds	278:10
Coffee	Cost	333:11,12

Subject Matter	Situation	Index
Food		
Beverages		
Grapejuice	Number jars needed	204:4
Grapejuice	Reducing pints to quarts and gallons	205:8
Lemonade	Number pints in 3 quart pitcher	203:4
Lemonade	Number glasses in 2 quarts	204:11
Milk	Number bottles school bought in 2 days	69:5
Milk	Number bottles bought	126:1
Milk	Number glasses in 9 quarts	132:5
Milk	Amount boy drinks	204:1
Milk	Number quarts in milk can	204:2
Milk	Amount girl drinks in 4 days	204:3
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Food		
	Sandwiches Number [illegible]	[illegible]
	Sandwiches Number [illegible] and [illegible]	[illegible]
	Sandwiches Number each [illegible]	[illegible]
	Sandwiches Number each [illegible]	[illegible]
	Sandwiches Number [illegible]	[illegible]
	Sandwiches Number [illegible]	[illegible]
Sugar	Cost	[illegible]
Sugar	Change when buying sugar	[illegible]
Sugar	Time it will last	[illegible]
Sugar	Number bags filled	[illegible]
Sugar	Number pieces used	[illegible]
Sugar	Number number in 2 pounds	[illegible]
Sugar	Number pounds bought	[illegible]
Sugar	Amount in 1 bags	[illegible]
Sugar	Number [illegible]	[illegible]
Sugar	Amount [illegible]	[illegible]
Sugar	Cost	[illegible]
Sugar	Amount in [illegible]	[illegible]
Sugar	[illegible] in [illegible]	[illegible]
Sugar	Cost	[illegible]
Sugar	Cost	[illegible]
Sugar	Number [illegible]	[illegible]
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Sugar	Weight	[illegible]
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Money	Amount put in bank	120:4
Money	Amount Alice earned	123:4
Money	Number nickels in 45¢	126:2
Money	Amount earned	132:1
Money	Number quarters in 5 dollars	132:7
Money	Divided	142:1
Money	Amount saved	157:1
Money	Number nickels in dollar	163:5
Money	Amount boy earned	170:1
Money	Amount to be saved each week	172:3
Money	Amount Mary had at first	181:4
Money	Amount of Henry's savings	181:9
Money	Amount Mary saved in 1 month	188:1
Money	Henry earned	188:2
Money	Amount Ned spent	188:3
Money	Amount Betty had in bank	188:6
Money	Amount given to Red Cross by 2 classes	188:7
Money	Amount boy has	191:1
Money	Amount unspent	191:3
Money	Amount unspent	192:1
Money	Amount John should save	193:2
Money	Amount unspent	193:5
Money	Amount unspent	194:7
Money	Difference in sums boy and girl have	194:9

Subject Matter	Situation	Index
Money	Amount unspent	194:16
Money	Amount girl earned	197:1
Money	Amount boy earned in 9 weeks	197:6
Money	Amount boy earned in 1 day	199:1
Money	Amount earned	212:2-7
Money	Amount Frank earned	217:5
Money	Difference in gas bill for 2 months	218:15
Money	Amount earned	222:1
Money	Amount put in bank	222:2
Money	Amount spent	222:3
Money	Amount Jack has in bank	233:3
Money	Amount not spent	233:6
Money	Amount in bank	235:3
Money	Amount needed to finish buying tools	235:5
Money	Amount spent for party	238:4
Money	Amount Betty had	238:5
Money	Amount Jane has in bank	238:6
Money	Amount boy has in bank	242:3
Money	Amount man had	242:6
Money	Amount man earns in week	243:9
Money	Amount man puts in bank in a week	243:10
Money	Amount of bill	243:12
Money	Amount unspent	246:1
Money	Amount not put in bank	246:3
Money	Difference in earnings of 2 boys	246:4

Subject Matter	Situation	Index
Money	Amount needed to finish buying ball	247:8
Money	Amount unspent	248:1
Money	Amount needed to finish buying game	248:3
Money	Amount needed to finish paying for meat	249:5
Money	Amount needed to finish paying for a bicycle	249:8
Money	Difference in price of eggs in city and country	249:9
Money	Amount needed to finish paying for a new car	254:1
Money	Amount of change	259:4,5,8
Money	Amount of grocer's earnings in a week	260:1
Money	Amount boy has left in bank	260:3
Money	Left for lunches	260:4
Money	Amount needed to finish buying a handbag	260:7
Money	Amount of change	266:2
Money	Amount of earnings saved	266:3
Money	Amount to finish buying roller skates	267:5
Money	Amount Jean earned knitting sweater	267:10
Money	Amount Helen banked in 3 months	270:4
Money	Amount lost	271:8
Money	Amount needed to buy something	271:9
Money	Amount Helen has in bank	272:5
Money	Amount Alice earned in 5 days	272:6
Money	Amount earned	274:3,4
Money	Amount in 7 quarters	276:4
Money	Amount earned	277:1

Subject Matter	Situation	Index
Money	Amount earned	278:4
Money	Amount saved in 7 weeks	281:5
Money	Amount Ellen earns in 16 weeks	292:6
Money	Amount Robert earns	292:7
Money	Amount Mary saved	292:9
Money	Amount Sally earned picking cherries	295:4
Money	Amount Elizabeth saved for mother's gift	297:3
Money	Amount James earned	297:5
Money	Amount James earned	300:5
Money	Amount Joe lost	301:12
Money	Amount store-keeper puts in bank in a week	306:4
Money	Amount earned	308:5
Money	Amount paid in library dues	310:3
Money	Amount made at baseball game and difference in amount made by boys and by girls	310:6
Money	Amount Edith earned and gave to library	310:8
Money	Amount can earn	312:5
Money	Amount Robert earned	314:11
Money	Amount of coins and bills to count out change	317:4,5
Money	Amount of coins and bills to count out change	318:1-25
Money	Amount saved for car in given time	319:6
Money	Amount each child got	328:9
Money	Amount each of 4 boys must pay for broken window	330:1

Subject Matter	Situation	Index
Money	Amount Charles should save each week	331:1
Money	Amount Mr. Ward must pay on radio each week	331:2
Money	Amount each of 8 boys must pay of the camping expenses	331:3
Money	Amount Henry got for beating 7 rugs	331:4
Money	Amount paid for rent of row boat each hour	331:5
Money	Amount Dorothy should earn each week to buy purse for mother's Xmas present	331:7
Money	Amount per hour Kate received	333:7
Money	Amount Walter received	333:8
Money	Amount each of 8 must pay for picture	333:14
Money	Amount girls have for picnic	333:13
Money	Amount needed to finish paying for bicycle	335:1
Money	Amount Kate had before spending some	338:3
Money	Amount Dan earns beating rugs	354:6
Money	Amount Joe earns picking cranberries	354:8
Money	Amount each girl of Scout troop should raise for Thanksgiving baskets	356:6
Money	Amount each child in room should raise for victrola and records	357:9
Money	Amount each boy of club should pay towards radio set	357:10
Money	Difference in earnings of 2 boys	358:5
Money	Amount needed to finish paying for a kodak	358:8
Money	Amount Dan earns in store per week	361:5
Money	Amount man saves	363:3

Subject Matter	Situation	Index
Money	Rent of house 6 months	385:16
Money	Coins given in change	386:5
Money	Amount after spending	387:4
Money	Time takes Betty to save 60¢	387:10
Money	Amount Robert earns in 3 days	387:12
Money	Amount each should pay towards picnic expenses	390:16
Money	Amount unspent	391:2,3
Money	Amount John earned and saved	392:8
Money	Amount Dick made on hens 1 month	397:3
Money	Amount Dick made on hens in 6 months	397:10
Money	Helen's daily average of earnings	405:17
Money	Questions about	409:4,5
Money	Estimate amount of earnings left	430:5
Money	Amount of change	433:4
Numbers	Tell how people of today use Roman Numerals	13:4
Numbers	Make number table from 0 to 99	1:11
Numbers	Make number table from 100 to 199	1:12
Numbers	Read numbers from table	1:13
Numbers	Write number just before 100	1:5
Numbers	Write number just after 100	1:6
Numbers	Write number just after 109	1:7
Numbers	Count to 200 by 10	1:8
Numbers	Count to 100 by 5	1:9
Numbers	Count to 50 by 2	1:10

Subject Matter	Situation	Index
Numbers	Number in ½ dozen	108:1
Numbers	Easy way to add same number	163:3
Numbers	Question about	400:1,2,3 401:4
Numbers	Question about fractions from pictures	421:1-4
Numbers	Question about fractions	422:1 423:2,3
Numbers	Difference in 2 numbers	249:11,12
Numbers	Naming the numbers in a subtraction ex.	250:1,2
Numbers	How to check subtraction ex.	250:3,4,5
Numbers	Question about subtraction ex.	251:24-26
Numbers	Questions about making puzzle	263:1
Numbers	Make largest number with given figures	263:2
Numbers	Make smallest numbers with given figures	263:3
Numbers	Make largest number possible with any 4 different figures	263:4
Numbers	Make smallest number possible with any 4 different figures	263:5
Numbers	Find easy way to add same number	281:2
Numbers	Names of numbers in multiplication ex.	286:1
Numbers	Questions about numbers	286:3
Numbers	Qesstions about	386:3,4
Oil	Cost per gallon	205:6
Oil	Cost per quart	205:7
Ornaments	Cost	313:2 314:3
Ornaments	Number can buy	329:11
Pages	Number read	60:4
Pages	Difference in number read	89:8

Subject Matter	Situation	Index
Pages	Difference in number pages read	89:12
Pages	Number Ruth had read	90:3
Pages	Number to finish reading the book	91:4 95:11 238:2
Pages	Number to read each day	163:2
Pages	Difference in 2 numbers of pages	194:8
Pages	Number to read to finish book	253:1
Pages	Number in one chapter of history	253:10
Pages	Number Helen had read	255:10
Pages	Number to read to finish book	271:1
Pages	Number in four books	281:6
Pages	Needed for postcards	325:1
Pages	Number Ned should read per day to finish book in 2 weeks	353:4
Pages	Number to read each of 12 days	431:6
Paint	Number pints in $\frac{1}{2}$ gallon	205:13
Paint	Cost of $\frac{1}{2}$ gallon	205:14
Paper	Cost	103:3,4
Paper	Cost	144:2
Paper	Length of each of 3 pieces	207:5
Paper	Cost	314:8
Paper	Cost of crepe paper	361:12
Papers	Number James sold	60:8
Papers	Number Ned sold in 3 days	67:1
Papers	Number sold	72:7

Subject Matter	Situation	Index
Papers	Number sold	90:1
Papers	Number boy had sold	95:10
Papers	Number sold	119:3
Papers	Difference in number sold	191:9
Papers	Number sold	194:13
Papers	Number sold	236:8
Papers	Number sold	243:8
Papers	Difference in numbers 2 boys sold	246:5
Papers	Number sold	248:2
Papers	Number sold	253:2
Papers	Number Ned had	267:8
Papers	Number sold	270:6
Papers	Selling price of 175	295:1
Papers	Cost in 1 year	305:7
Papers	Amount James earned buying and selling	361:8
Papers	Number sold by Ned	434:15
Papers	Amount paid each week	434:16
Paste	Cost of paste cup and notebook	45:2
Pencil	Cost	106:4
Pencil	Cost of one	321:5
Pencils	Draw and find number not sharpened	8:2
Pencils	Cost	103:5,6
Pencils	Number bought	115:2
Pencils	Number bought	160:2
Pencils	Number can buy	180:7
Pencils	Cost per dozen	200:6

Subject Matter	Situation	Index
Pencils	Number in 4 boxes	273:1
Pencils	Cost	276:6
Pencils	Cost	308:4
Pencils	Cost	398:1
Pencils	Cost	412:15
Pencil Box	Cost of pencil box, pencil, and eraser	45:1
Pencil Box	Cost of pencil box, paste, and notebook	45:3
People	Number can be seated in trolley	431:5
People	Number can be seated in train	433:7
People		
Boys	Number in a school	194:10
Boys	Number rows	328:2
Children	Number in class in picture	1:1
Children	Number can count to 200	1:2
Children	Number cannot count to 200	1:3
Children	Number in own class who can count to 200	1:4
Children	Draw and add	2:3
Children	Number absent from school	17:5
Children	Number guests at birthday party	19:1
Children	Number absent	19:8
Children	Number stayed on street car	25:9
Children	Number went on picnic	25:8
Children	Number late in each of 5 grades in a week and which had least	36:2
Children	Number in third grade	41:6
Children	Number making a snowhouse	41:8

Subject Matter	Situation	Index
People		
Children	Number in school room	52:4
Children	Number at school party	54:1
Children	Number in school	54:3
Children	Number in 3 schools	56:2
Children	Number in room during singing period	60:1
Children	Number in 2 schools	68:3
Children	Number at party	69:4
Children	Number playing	72:5
Children	Number left at school	79:2
Children	Number present	80:2
Children	Number in school room	88:3
Children	Difference in number boys and girls	88:4
Children	Number absent from school	94:5
Children	Number at board	101:1
Children	Number boys and girls in class	108:2
Children	Number in 3 rows	111:4
Children	Number went to Fred's show	114:1
Children	Number went to tiger's tent	114:2
Children	Number in each of 3 groups	115:1
Children	Number in each of 2 groups	118:1
Children	Number in each row	126:5
Children	Number	132:3
Children	Number	135:1
Children	Number	137:2

Subject Matter	Situation	Index
People		
Children	Number rows	138:3
Children	Number can have three cakes each	144:4
Children	Number in each of 8 lines	160:4
Children	Number at party	181:6
Children	Number in 4 grades	186:5
Children	Number in 3 schools	186:7
Children	Number at school	191:5
Children	Number in a school	194:11
Children	Number absent	217:2
Children	Number in a school	218:17
Children	Number in a class	223:9
Children	Number in class	249:6
Children	Difference in number in 2 schools	253:6
Children	Difference in number boys and girls in a class	249:7
Children	Number girls in a school	253:9
Children	Difference in numbers in 2 schools	260:6
Children	Number in school	270:5
Children	Number in 6 grades	272:7
Children	Number in 3 fourth grades	274:2
Children	Number in a school	277:3
Children	Number in a school	284:5
Children	Number rows	325:3
Children	Number may play dodge ball	328:10
Children	Number in each class on the average	356:7
Children	Number of rows marching and number left	361:10

Subject Matter	Situation	Index
People		
Girls	Number in Helen's school	181:10
Girls	Number in a school	191:8
Inhabitants	Increase in number in 1 year	253:3
Men	Number in parade	320:8
Men	Number in parade	366:13
Pins	Number pins paid to see show	114:3
Pins	Comparing number pins with cost of seeing show	114:4 115:5
Postcards	Difference in 2 numbers of postcards	191:6
Postcards	Number mailed	194:6
Postcards	Find fraction of number Jean has and compare with number Mary has	429:12
Property	Buying and selling, amount gained	392:7
Radio	Amount needed to finish buying	255:4
Radio	Cost per week	350:10
Radio	Amount of weekly payments	389:11
Radio	Will savings of Mary and John for year pay for radio	430:3
Rectangle	Question about fractions of	407:6
Rope	Length in yards and feet	207:3
Roses	Number in each of 4 vases	138:6
Roses	Number given away	89:9
Rows	Number to weed each day	120:1
Ruler	Questions about	401:6 402:8
School Bag	Cost of school bag, lunch box, and book	188:4

Subject Matter	Situation	Index
Schoolroom	Length	207:7
Scooter	Share of cost of mending each of 2 pays	119:1
Score	Average of Ruth's scores in Arithmetic for 1 week	395:1
Score	Sum of boy's scores in game for 5 days	266:1
Score	Average of each of 5 girls in spelling	395:2
Score	Game of scores	395:3
Score	Kate's score in bean bag game	6:6
Scores	Find scores of each of 3 children throwing balls at stuffed cats at circus	34:1
Scores	Total scores of 4 teams in bean-bag game and which team won	47:1
Scores	Which of 8 trials was Henry's best	48:2
Scores	Which of 8 trials in bean bag-game was Paul's best and which worst	48:1
Scores	Multiplication race. Find which side wins	150:1
Seals	Number sold	281:7
Seals	Number sold by scout troop	284:8
Seals	Number sold	295:2
Seals	Number whole school given to sell	300:4
Seals	Number sold	320:11
Seals	Number children sold	353:3
Seals	Number each child sold	354:7
Seals	Number unsold	391:5
Seeds	Cost of 2 packages	33:9
Sign	Place $ sign	61:1
Sign	How write $ and cents	61:2

Subject Matter	Situation	Index
Skates	Cost of roller skates and bathing suit	233:7
Skates	Amount money to finish buying skates and skating shoes	255:6
Sled	Has Bob money enough to buy a sled	163:6
Squares	Number in sheet of paper	301:10
Stamps	Cost of mailing 2 parcels	6:9
Stamps	Number needed for letters	16:1
Stamps	Number Helen has in album	66:1
Stamps	Number after giving away some	96:2
Stamps	Number bought	106:5
Stamps	Cost	102:4 103:1,2,7
Stamps	Number bought	126:4
Stamps	Cost	157:3
Stamps	Number can buy	164:1
Stamps	Number bought	218:9
Stamps	Number needed to mail given number Xmas cards	247:7
Stamps	Difference in numbers 2 boys have	249:4
Stamps	Number needed to fill book	253:8
Stamps	Number Arthur has left after selling some	271:3
Stamps	Cost	296:6
Stamps	Cost	312:2
Stamps	Cost	314:5
Stamps	Number can buy	328:3
Stamps	Cost	386:2
Stamps	Cost	390:14

Subject Matter	Situation	Index
Stamps	Number Charles had	391:4
Stamps	Cost	412:13
Stamps	Estimate number 2 had	430:6
Star	Question about fraction of	406:5
Stars	Number in flag	217:3
Stationery	Cost	222:3
Steamer	Distance sailed in 2 days	335:5
Tablets	Cost	432:13
Tags	Number	153:5
Tags	Amount sold for	310:4
Teams	Number baseball teams can be made	328:6
Telephone	Cost per year	292:14
Temperature	Question to be answered from a given temperature record	370:1-4
Temperature	Question about local temperatures	370:5-9
Temperature	Questions about local temperatures	371:1-8
Temperature	Questions about local temperatures	372:9,10
Temperature	Question about	399:4
Tickets	Number 3 girls sold	16:3
Tickets	Number Jane sold	25:6
Tickets	Cost	119:2
Tickets	Number sold	126:7
Tickets	Cost	138:2
Tickets	Cost	148:7
Tickets	Cost	152:1
Tickets	Cost of street car tickets	173:7

Subject Matter	Situation	Index
Tickets	Amount sold for	197:2
Tickets	Cost	235:1
Tickets	Amount money sold for	239:10
Tickets	Number sold	253:5
Tickets	Number unsold	260:5
Tickets	Selling price of 9	275:11
Tickets	Cost of 2	278:9
Tickets	Selling price of 45	291:4
Tickets	Cost	294:1
Tickets	Total selling price	297:7
Tickets	Money sold for	306:5
Tickets	Number of street car tickets can buy	328:7
Tickets	Cost per mile of bus ticket	350:6
Tickets	Amount change received	388:14
Tickets	Cost per mile	389:6
Tickets	Cost and amount of change	393:10
Tickets	Estimate amount sold for	430:9
Time	Telling time from pictures of clocks	14:1-12
Time	Questions to be answered by different months	28:1-17
Time	Number days until Xmas	111:1
Time	Spent in school each ieek	123:3
Time	Number days in 4 weeks	132:8
Time	Takes Ruth to run down the block	144:5
Time	Number of minutes in school each day	162:14
Time	To walk 1 block	173:5
Time	Number days of vacation left	193:3

Subject Matter	Situation	Index
Time	Telling time from pictured clocks	201:1-4 202:5,6
Time	Draw clock faces showing different times	202:1-12
Time	Speakers talked in school	217:8
Time	Number weeks jack stayed in country	218:11
Time	Number days in first 6 months	219:20
Time	Number days in last six months	219:21
Time	Measure length of minute with eyes closed	223:10
Time	Number minutes Ruth had left to practice on piano	271:2
Time	Number days child absent from school	272:4
Time	Number hours practice on piano in year	283:1
Time	Takes Goerge to walk home	321:2
Time	Number weeks in June	322:9
Time	Takes to save 45¢	322:7
Time	Number weeks in year	335:9
Time	Length of school year	338:12
Time	Number days in vacation	363:8
Time	Number weeks in 315 days	366:7
Time	Number days in 75 weeks	366:8
Time	Question on time from pictured clock faces	373:1,2,4,5
Time	Question on time from railroad time table	373:3
Time	Time Robert's play time was over	374:2
Time	Time Mary should leave home for school	374:3
Time	Alice was gone from home	374:4
Time	Number minutes between 2 given times	374:5-10
Time	Number days in a week	375:1

Subject Matter	Situation	Index
Time	Name days of week	375:2
Time	Number days in this month	375:3
Time	Name number of year and write number days in each month	375:4
Time	Find day of month 2 weeks from today	375:5
Time	Find day of month 4 weeks from today	375:6
Time	Find day of week one month from today	375:7
Time	Number days in this year	375:8
Time	Number of seconds to count to 60	376:1
Time	Number of minutes in $\frac{1}{2}$ and $\frac{1}{4}$ hours	376:2
Time	Number hours from noon to midnight and from midnight to noon and hours in a day	376:3
Time	Meaning 4:25 P.M., etc.	376:4
Time	Find correct time when Dan's watch is 3 minutes fast	377:1
Time	Find correct time when Alice's watch is 7 minutes slow	377:2
Time	Number minutes fast Jack's watch is	377:3
Time	Amount time between 2 given times	377:4 378:10
Time	Time on clock of given times	377:5
Time	Time spent in school one A.M.	377:6
Time	Time spent in play one P.M.	377:7
Time	Time Ned should stop work	378:8
Time	Mary is in school in A.M. and in P.M.	378:9
Time	Which of given times are day time	379:11
Time	Reducing given times to other units	379:12-21

Subject Matter	Situation	Index
Time	Hours Alice is away from home	383:4
Time	Number seconds in 2 minutes	383:5
Time	Number minutes in 1/3 of an hour	384:7
Time	Number minutes Ned worked and amount of pay	385:13
Time	Number minutes between 2 given times	386:17
Time	Name of sixth month	390:1
Time	Name of first day of week	390:2
Time	Length of lesson period	390:3
Time	Number hours from noon to noon	390:4
Time	Number hours from 9 A.M. to 3 P.M.	399:1
Time	Number minutes from 9:30 A.M. to 10:15 A.M.	399:2
Time	Number minutes between 2 given times	405:8
Time	Bill worked	414:4
Time	Number hours Charles worked	417:4
Time	James worked	424:5
Time	Bob worked	428:8
Time	Jane practiced	429:11
Time	Arithmetic lesson stops	429:14
Time	John worked	432:15
Time Year	Number years before Robert will be 30 years old	191:2
Tires	Cost	338:5
Toys	Cost	335:10
Train	Distance travels	149:5
Train	Distance traveled	319:3

Subject Matter	Situation	Index
Train	Number miles per hour it travels	333:3
Train	Distance it goes in 8 hours	333:4
Train	Distance traveled	365:3,4
Train	Number minutes late	378:5-7
Train	Time different trains take going between 2 given cities	379:21
Train	Compare times in above and find which slowest and which fastest	379:22
Train	Find from time table which are day trains	379:23
Train	Find from time tables which are night trains	379:24
Train	Which train should you like to go on and why	379:25
Trees	Number planted	72:1
Trees	Number in orchard	297:4
Trees	Number in row	328:1
Trees	Number in orchard	353:1
Trees	Number in each row	353:2
Trolley	Times each car passes Jack's house	375:16
Utensils	Amount of change when buying	269:4
Valentines	Cost	137:1
Valentines	Cost	148:6
Valentines	Cost	152:3
Votes	Number Mr. White received	239:11
Wages	Amount for 1 week	152:2
Wages	Amount for 1 day	200:1
Wages	Of man for 9 weeks	275:14

Subject Matter	Situation	Index
Wages	Amount in year	305:2
Wages	Amount of man's wages for year	320:10
Wages	Per day of bank worker	350:2
Wages	Amount earned in 1 day	354:10
Wages	Of Mr. Brown for a year	361:9
Wages	For 1 hour's work	365:1
Wages	For 12 hours work	365:2
Weights	Difference in weight of boy and sister	94:1
Weights	Amount boy gained in 1 year	96:4
Weights	Total weight of father, mother, and son	185:1
Weights	Total weight of 4	186:2
Weights	Difference in weight of father and daughter	191:7
Weights	Number pounds to be gained	191:11
Weights	Amount boy gained in one year	194:15
Weights	Estimate weight of boy and find out	223:7
Weights	Estimate weight of girl and find out	223:8
Weights	Difference in weight of 2 boys	247:9
Weights	Weight of father, mother and daughter	267:7
Weights	Amount Peter should gain	270:1
Weights	Reduce 14 pounds to ounces	282:3
Weights	Average weight of 6 boys	356:1
Weights	Average weight of 7 boys	359:12
Weights	Total weight of father and daughter	360:1
Weights	Amount John weighs	363:7
Weights	Reducing a pound to ounces, etc.	381:1
Weights	Difference in weight of boy and his sister	163:1

Subject Matter	Situation	Index
Weights	Name things usually sold by ton	381:2
Weights	Learn table	381:3
Weights	Reducing to other units	381:1-4,6-9
Weights	Average weight of 5 boys on basket ball team	405:16
Weights	Number ounces in 5/8 of a pound	425:3
Weights	Amount gained by baby in 8 months	428:7
Weights	Difference	429:4
Weights	Difference in weight of Jane and her father	429:10
Wool	Number balls bought	398:6
Words	Number Mary learned in 3 days	16:2
Words	Number words misspelled	32:1,2
Words	Learned by third grade spelling class in a week	52:7
Words	Number spelled right	88:5
Words	Number learned in 1 day	109:5
Words	Time to learn	115:4
Words	Time to learn to spell	137:5
Words	Number learned	297:8
Words	Number class has studied	297:6
Words	Number can read	333:5,6
Wreaths	Cost	313:1
	Number of Arithmetic Problems - Grand Total	1,696

TABLE XLIII

FREQUENCY OF OCCURRENCY OF SITUATIONS BY SUBJECT MATTER
IN THE NEW DAY ARITHMETIC (ELEMENTARY) 1930.

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Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Absences																				
Age		4																		
Ages																			4	
Airplane															1					4
Animals																				
Birds																				
Chickens									2											
Dog																				
Goldfish																				
Hens																				
Rabbits																				
Robins																				
Auto												1			4					15
Balls															9					
Baseball							1								1					1
Bat							2													
Beads												1								
Bicycle							1					2			2					1
Blocks																				
Books				2								1			9					
Candles																				
Cards															1					
Circles																				
Clocks																				
Cloth		1	1			3			1						8					
Carpet															1					
Gingham			1			1									3					
Linen		1	1			2									2					
Muslin															1					
Total		6	3	2		6	4		3			5			42				4	21

Situations by Subject Matter In 392

(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
									1													1
																						4
																						4
																						5
									1										1			2
	1								6					1								10
																			1			1
									1													1
														1								1
									1													1
									1													1
									3								1		1			25
1																						10
															1							4
																						2
									2													3
																						6
									1													1
									9	1							2					24
									1													1
																						1
7										1												8
										2												2
																					1	15
																						1
																						5
																						6
																						1
8	1								27	4				2	1		3		2	1	1	146

Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Cloth																				
Napkins															1					
Ribbon			2			1									6					
Badges																				
Velvet															1					
Clothespins			1																	
Clothing							1								9					
Aprons						1		1												
Buttons		1	1			1														
Caps															1					
Coat				1																
Dresses															1					
Gloves															1					
Handkerchiefs															3					
Sheets															1					
Shoes				1											2				1	
Stockings																				
Sweater				2			1													
Coal															6					
Crayons																				
Distance		21				1													5	
Dolls															4				1	
Electricity															3					
Envelopes			1																	
Examples																				
Facts																				
Fence															1					
Flag																				
		22	5	4		4	2	1							40				7	

Situations by Subject Matter In 394

(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
																						1
						1			1													11
										4												4
																						1
																						1
																						10
																						2
																						3
																						1
																						1
										1												2
																						1
																						3
																						1
																						4
										1												1
																						3
																				2		8
1																						1
																						27
										3												8
																						3
																						1
										4												4
										1												1
																						1
															2							2
1						1			15						2					2		106

C

395

Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Food														3					
Bakery																			
Bread		1	1											7					
Cakes					1									6				1	
Cookies		2			1									2					
Crackers														1					
Pies					2			1											
Rolls														1					
Beverages																			
Coffee														4					
Grapejuice	1																		
Lemonade	2																		
Milk	8	3						2			1			6					
Tea								1						1					
Butter														8					
Candy	2	2	1											16				1	
Chocolate Bar						1													
Cereal														1					
Cheese														2					
Cream														2					
Eggs	1		1		3	1		3						13					
Fruit														4					
Apples	1	3	1					2						3					
Bananas		1			2														
Berries	3	1												2					
Cherries					1									1					
Grapefruit														2					
Grapes		2												1					
Lemons		2												3					
Melons														1					
Oranges		11												13				1	
Totals	18	28	4		10	2		9			1			103				3	

Situations by Subject Matter In 396

(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
																						3
									1													10
																	1					9
2									2													9
															1							2
									1													4
																						1
																						4
												1										2
																						2
								1						1								22
									2													4
	1																					9
	1								3					3			1			1		31
										2												3
																						1
																						2
																						2
1									14	1				8								46
																						4
3									6	1				3								23
																						3
														1								7
														2								4
																						2
																						3
																						5
																						1
1									3	1												30
7	2							1	32	5		1		18	1		2			1		248

Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations: Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Food																			
Fruit																			
Peaches		2									1			2					
Pears		2												2					
Plums																			
Raspberries																			
Strawberries														1					
Grain																			
Flour	1													1					
Oats														2					
Rice														1					
Wheat																			
Groceries			26			1								20					
Ice Cream			1											9					
Jelly														1					
Lunch														27					
Meat			1											5					
Beef														3					
Chicken														1					
Fish					1														
Goose														1					
Ham														2					
Turkey														1					
Nuts																			
Peanuts		1												1					
Walnuts																			
Sandwiches																			
Sugar	3	1	2											9					
Syrup														1					
Vegetables																			
Beans														2					
Beets					1			1											
Totals	4	6	30		2	1		1			1			92					

Situations by Subject Matter In
(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
									2													7
																						4
									3													3
									1													1
																						1
																						2
																						2
																						1
																				1		1
																						47
									5					1								16
									1													2
																						27
																						6
																						3
														1								2
									1													2
																						1
																						2
																						1
																						2
														1								1
									7													7
									4								2			3		24
																						1
														3								3
																						2
														1								3
									24					7			2			4		174

Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Vegetables																				
Cabbages																				
Carrots									1											
Corn			1												1					
Lettuce																				
Peas															3					
Peppers									1											
Plants						1			1											
Popcorn							1		1						3					
Potatoes			1					1							12					
Tomatoes															5					
Football				1																
Fountainpen				1																
Furniture															7				4	
Bed							1													
Chairs							1								1					
Couch							1													
Desks																				
Piano							1													
Pictures																				
Rug							1													
Seats																				
Stove							1													
Gasoline							1								5					
Goods			15																	
Hall																				
Hay		1													1					
House															2					
Total		1	2	17		1	8	1	4						40				4	

Situations by Subject Matter In 400

(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
														2								2
									1					1								3
																				1		3
									1					3								4
																						3
									2													3
									1													3
																						5
														3						1		18
														1								6
																						1
																						1
																						11
																						1
									3													5
																						1
									2													2
																						1
									1													1
																						1
									4													4
																						1
	1									1												8
																						15
						1																1
																						2
																			1			3
	1					1			15	1				10					1	2		109

Table
Frequency of Occurrence of
The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Invitations																			
Jacks														1					
Jars																			
Jumping Ropes																			
Kite Tail																			
Land		2																	
Farm														1					
Garden		1																	
Playground																			
Lime														1					
Lumber																			
Boards														3					
Wood																			
Magazines									1										
Marbles			2			4	1							1					
Matches																			
Measures																	4	1	
Money		33		35	52	20	21	35									9		
Numbers															3		2		
Oil														2					
Ornaments														2					
Pages																	3		
Paint														1					
Paper														5					
Papers								13			1			2			2		
		36	2	35	52	24	22	35	14		1			19	3		20	1	

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
									1													1
																						1
									1													1
						1																1
						1																1
																						2
																						1
		1								2												4
						1																1
																						1
						3																6
										1												1
																						1
2	1								3													14
1																						1
14	6			4	1	2		2		7		76										117
	1									5		4	2		7	1	2					227
								2		36												43
																						2
									1													3
									14													17
												1										2
						1																6
									1					2								21
17	8	1		4	1	9		4	21	51		81	2	2	7	1	2					475

Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Paste														1					
Pencils		3												9					
Pencils Box														2					
People																			
Boys																			
Children																		4	
Girls																			
Inhabitants																		1	
Men																			
Pins																			
Postcards																		1	
Property											1								
Radio						1								3					
Rectangle																			
Rope																			
Roses																			
Rows																			
Ruler																			
School Bag														1					
School Room																			
Scooter																			
Scores																			
Seals																			
Seeds														1					
Sign																			
Skates						1								1					
Sled						1													
Squares																			
Stamps		5			2	3								12				1	
Stars																			
Totals		8			2	6					1			29				7	

Situations by Subject Matter In
(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
																						1
1									1													14
																						2
									2													2
									2													2
1									58													63
									2													2
																						1
									2													2
									3													3
		1							1													3
																						1
																						4
										1												1
						1																1
									2													2
									1													1
										2												2
																						1
						1																1
														1								1
																10						10
									8													8
																						1
										2												2
																						2
																						1
									1													1
	1								2													26
									1	1												2
2	1	1				2			86	6				1		10						163

Table

Frequency of Occurrence of

The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Earned	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Barter	Buying & Selling	Circumference	Commission	Cost	Count	Cubic Contents	Diameter	Difference	Distance
Stationery															1					
Steamer																				1
Tablets															1					
Tags																				
Teams																				
Telephone															1					
Temperature																				
Tickets			1	1		1			4						11					
Time		39				1														
Years																				
Tires															1					
Toys															1					
Train																				5
Trees																				
Trolley																				
Utensils				1																
Valentines															3					
Votes																				
Wages		10																		
Weights		13																	6	
Wool			1																	
Words																				
Wreaths															1					
Total		62	2	2		2			4						20				6	6

Situations by Subject Matter In

(Elementary Book) 1930

Draw	Estimate	Fraction	Gain	Height or Depth	Learn	Length	Loss	Make Problem	Number	Questions	Rate	Reduce	Rent	Selling Price	Shares	Sum	Time	Travelled	Value	Weight	Width	Total
																						1
																						1
																						1
									1					1								2
									1													1
																						1
										20												20
	1													6								25
12										60		25										137
									1													1
																						1
																						1
										4	1						4					14
									5													5
																	1					1
																						1
																						3
									1													1
																						10
	2				1					1		11										34
																						1
									10								2					12
																						1
12	3				1				19	85	1	36		7			7					275

GRAND TOTAL 1,696

Table XLIV

This is a Summary of Table XLIII
According to Specific Situations

New Day Arithmetic, Elementary

Amount Situations

	Totals
Amount or Quantity	147
Amount left	51
Difference	49
Fraction	2
Number	239
Shares	14
Sums	11
Grand Total	513

Measuring Situations

	Totals
Distance	28
Height or Depth	4
Length	13
Rate	1
Reduce	118
Weight	8
Width	3
Grand Total	175

Money Situations
Not Buying or Selling

	Totals
Amount earned	52
Amount needed	45
Amount saved	37
Rent	2
Value	3
Grand Total	139

Judgment Situations

	Totals
Count	3
Draw	47
Estimate	16
Learn	2
Make up Problems	5
Questions	152
Grand Total	225

Buying Situations

	Totals
Amount Bought	56
Amount of Change	94
Cost	386
Grand Total	536

Selling Situations

	Totals
Amount Sold	35
Selling Price	46
Grand Total	81

Buying and Selling Situations

	Totals
Bought & Sold	9

Time Situations

	Totals
Time	16

Table XLV

Showing the Number of Places in Given Figures
of the New Day Arithmetic - Elementary - 1930

Number of Places	Frequency	Percentage
0 Places	108	6.3
1 Place	367	21.6
2 Places	703	41.4
3 Places	429	25.3
4 Places	80	4.7
5 Places	8	.4
6 Places	1	.05
Total	1,696	99.75

Table XLVI

Show the Number of Places in the Decimals
In Problems of New Day Arithmetic - Elementary - 1930

Decimal Places	Frequency	Percentage
2 Places	813	100.00

Table XLVII

Showing the Total Number of Fractions Occurring In all Problems as Stated but not Solved in the New Day Arithmetic, Elementary - 1930

Fractions	Frequency	Percentage
1/2	112	34.2
1/4	62	18.9
3/4	42	12.8
1/3	31	9.4
2/3	15	4.5
1/6	20	6.4
5/6	7	2.1
1/8	15	4.5
3/8	4	1.2
5/8	8	2.4
7/8	10	3.0
1/10	1	.3
Total	327	99.7

Table XLVIII

Number Problems Distributed on the Basis of the Processes Used in New Day Arithmetic, Elementary - 1930

Processes	Frequency	Percentage
Addition	355	20.9
Subtraction	289	17.0
Multiplication	357	21.0
Division	325	19.1
Addition, Subtraction	38	2.2
Addition, Division	5	.3
Addition, Subtraction, Multiplication	1	.05
Addition, Subtraction, Division	1	.05
Subtraction, Division	4	.2
Addition, Multiplication	37	2.0
Subtraction, Multiplication	27	1.5
Multiplication, Division	44	2.6
Write	5	.3
Count	13	.8
Draw	23	1.3
Questions	172	10.1
Total	1,696	99.4

Table XLIX

Problems Already Solved in
New Day Arithmetic - Elementary - 1930

	Totals
Number problems solved	149

Table L

Analysis of Pages in the New Day
Arithmetic - Elementary - 1930

413

	Pages Numbered	Square Inches	Pages
Introduction			
Title Page	1		
Name of Book		3.	.13
Author		1.	.05
Publisher		.25	.02
Copyright		.12	.01
Preface	III-V	12.42	.57
Table of Contents	VI-XI	27.	1.22
Arithmetic Text	1-447	8934.00	407.00
Tables	448	22.	1.
Index	449-452	88.	4.
Blank Pages			38.
			452.00

Analysis of Pages in the New Day Arithmetic
(Elementary) Already Included in Previous Table

	Pages
Tables Arithmetic	8.11
Illustrations	33.2

CHAPTER VI

New Day Arithmetic - Intermediate Book

By Durell, Gillet, Durell

Published by Charles E. Merrill Company 1930

TABLE LI

Topics or Processes Under Which Problems and Examples are Classified
in the New Day Arithmetic - Intermediate Book - 1930

Topic	Number of Examples	Number of Problems
Addition	56	71
Subtraction	94	35
Reading & Writing Numbers	25	11
Diagnostic Tests		
Addition	74	
Subtraction	83	
Graded Practice		
Addition	43	
Subtraction	58	
Multiplication	185	90
Diagnostic Test	120	
Graded Practice	85	
Division	446	111
Diagnostic Test	145	
Graded Practice	87	
Fractions	1,027	280
Diagnostic Test	135	
Graded Practice	196	
Measures	234	130
Decimals	868	160
Mastery Test		26
Diagnostic Test	100	
Graphs	3	37
Keeping Account of Money		
Cash Accounts		8
Budgets		19
Sales Slips		7
Bills		19
Receipts		5
Statements		6
Percentage	277	124
Discount	15	30
Commission	19	50
Profit & Loss	20	10
Variety of Practice	45	253
Total	4,440	1,482

Table LII

Problems Listed in Relation to
Subject Matter and Situation
In the New Day Arithmetic, Intermediate Book
By
F. Durell, H. Gillet, and T. J. Durell

Subject Matter	Situation	Index
Age	Age of Abraham Lincoln at his death	379:14
Ages	Ralph's age in comparison to his father's	180:7
Ages	Dick's age is what part of Ruth's age	180:8
Ages	Age of Richard	374:3
Ages	Difference in ages of Jack and Ruth	400:32
Ages	Difference in years between Virginia and Stephen	443:12
Airplane	Number of miles traveled in air	30:6
Airplane	Distance airplane will go in 4 hours	53:5
Airplane	Time airplane takes to fly from New York to Chicago	60:1
Airplane	Number of miles per hour airplane flies	60:2
Airplane	Number of miles airplane goes on a gallon of gas	60:4
Airplane	Number of hours plane takes to go from Atlanta to Annapolis	60:5
Airplane	Number miles airplane goes in 1 hour	209:13
Airplane	Number miles iirplane goes in 8 hours	221:4
Airplane	Number of minutes takes airplane to go 72 miles	301:1
Airplane	Number of minutes it will take airplane to go 55 miles	323:6
Airplane	Number of miles above sea airplane is	383:15

Subject Matter	Situation	Index
Album	Amount of discount per cent if discount	431:3
Animals		
Calves	Average profit per calf	346:11
Dog	Per cent of profit in selling a dog	426:13
Fish	Difference in length of fishes of Dan and Jerry	121:3
Fish	Difference in weight of two fishes of Dan and Jerry	121:4
Fish	Total weight of William's fish	381:16
Hens	Value of Dick's hens	277:8
Pigs	Selling price of pigs	304:3
Auto	Number of miles per day bus can travel	53:6
Auto	Amount of each payment on car	53:8
Auto	Number of busses needed to carry 264 children to picnic	60:1
Auto	Average of miles per month Mr. Sinclair drives his car	80:9
Auto	Average number of miles per hour	222:8
Auto	Rate of auto per hour	320:7
Auto	Number of seconds racing auto runs a mile	346:12
Auto	Amount offered for second-hand car, 25% less than he paid	357:12
Auto	Selling price of car discount being deducted	443:9
Automobile	Number of miles Mr. Phelps has driven his car in five months	19:2
Automobile	Difference in cost and selling price of automobile	33:5
Automobile	Distance left to go in automobile	33:4
Automobile	Cost of car when new	33:9

Subject Matter	Situation	Index
Automobiles	Per cent of families have automobiles	415:13
Automobile	Per cent of profit buying and selling	426:12
Ball	Cost of one ball	219:4
Balls	Difference in net price of volley balls	430:28
Balls	Net price of volley balls with discount deducted	441:23
Balloon	Average distance the balloon went per hour	222:11
Baseballs	Cost of one baseball and cost of a dozen	135:6
Baseballs	Find gain in buying and selling of baseballs	143:17
Baseball	Time each of five baseball clubs can use baseball diamond	171:2
Baseballs	Number of baseballs bought for $3.00	303:2
Baseballs	Dealer's per cent of profit on baseballs	425:5
Baseballs	Net price of baseballs	430:24,25
Baseball Bats	Per cent of discount buying bats	432:15
Bats	Per cent of discount on baseball bat	446:39
Hits	Number of hits baseball player made, per cent being given	415:10
Mitts	Price John paid for catcher's mitt	124:1
Mitts	Amount of discount per cent of discount	431:2
Throws	Average length of throws in basket-ball	84:3
Throws	Difference in throws between Polly and Norah	221:3
Bicycle	Cost of bicycle and repairs	46:2
Bicycle	Number of miles Al rode bicycle per hour	51:2
Bicycle	Cost of repairing bicycle of Ned's	33:3

Word	Definition	Page
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Subject Matter	Situation	Index
Bicycle	Selling price of bicycle	422:5
Bicycle	Total cost of bicycle. Profit in selling	423:1
Bicycle	Selling price of bicycle	424:20
Bicycle	Amount Peggy sold bicycle for	439:2
Bicycle	Selling price of Donald's bicycle	443:16
Bills	Amount of household bills in December for Mrs. Green	15:7
Bills	Amount of Ted's mother's bills in whole house for one month	19:4
Blackboard	Draw to scale a blackboard	391:5
Boat	Each of 3 boys share of cost of using boat	250:4
Book	Amount Sarah needed for book	5:1
Books	Average cost of books for John for a year	226:4
Books	Average cost of text books per pupil per year, per month	227:6
Books	Average price Paul paid for books	261:1
Books	Cost of books	311:3
Books	Cost of books	311:8
Books	Number of books bought for $5.00	311:10
Books	Find James' commission on books	419:1
Books	James' commission on books and proceeds	419:3
Books	Amount of Mary's commission on books	439:9
Books	Net cost of 230 histories	441:24
Books Encyclopedia	Amount of discount. Per cent of discount	431:1
Bookcase	Selling price of bookcase to make a profit	438:21

Subject matter	Citation	Page
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Subject Matter	Situation	Index
Box	Cubic inches in a box	368:3
Box	Cubic inches in a box	389:1
Box	Volume of a box	389:5-7
Box	Cubic feet in a box	390:12
Boxes	Difference in volume Morris' and Sarah's boxes for candy	390:11
Bracelet	Selling price of bracelet	438:18
Building Hall	Draw to scale a hall	391:6
Store	Cost of buying 1/3 of Mrs. Lane's share of store	269:10
Bulbs	Cost of 45 lily bulbs	40:4
Cellar	Cubic feet of earth must be removed from cellar	389:10
Cellar	Cost of digging a cellar	390:13
Children	Number of people in classroom	5:7
Children	Size of your school, and also in comparison to Oakridge school	26:6
Children	Number of children at meeting	33:6
Children	Number of pupils absent one day	34:4
Children	Number of children in one row of school	48:4
Children	Average number of scouts in troop	75:8
Children	Average daily attendance in school	85:8
Children	Average daily attendance for one week in school	85:8
Children	Part of class girls are - boys are	180:11
Children	Difference in attendance in school in two years. Increase is what part of last year's attendance	277:9
Children	Find the school enrollment in your town or city	26:7

Symbol Position	Description	Page
[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]

Subject Matter	Situation	Index
Cloth	Cost	34:1
Cloth	Number of yards of gingham Julia's mother bought	122:11
Cloth	Selling price of remnant of cloth	136:15
Cloth	Cost of 3/8 yard of cloth	152:2
Cloth	Amount of cloth Agnes needed to make 8 aprons	152:4
Cloth	Cost of 3/4 yard of cloth	152:5
Cloth	Cost	154:2
Cloth	Cost of a yard of cloth	168:5
Cloth	Amount of cloth needed to cover three pillows	168:7
Cloth	Number of yards of cloth needed to make 4 aprons	170:1
Cloth	Number of yards needed to make costume	170:6
Cloth	Number of dolls dresses cut from ten yards of cloth	170:8
Cloth	Amount in bolt	183:14
Cloth	Number of yards of cloth to make 12 aprons	225:3
Cloth	Number of yards tailor needed to make 30 suits	267:1
Cloth	Length of cloth after it is washed	268:11
Cloth		
Braid	Amount of braid to go around Jone's scarf	386:1
Calico	Cost of calico	303:3
Cambric	Amount of cloth left in bolt after cutting 12 costumes	269:6
Carpet	Number of yards of carpet for entire hall	120:8

Subject Matter	Situation	Index
Cloth		
Carpet	Number of strips needed to cover floor	268:7
Carpets	Number of strips to cover floor with carpet	170:10
Cord	Cost	154:5
Curtains	Amount of cloth Adele has left from 3 yards of material	152:8
Curtains	Number of yards curtain material Helen's mother had	159:9
Goods	Cost of purchases	34:6
Goods	Amount of Dry Goods bill for Mrs. Arnold	88:9
Goods	Amount of bill	144:7
Goods	Complete and receipt statements	341:1
Goods	Make out and receipt statement for hard-ware	342:2
Goods	Make out and receipt statement for goods	342:5
Goods	Freight charges on shipment of goods	306:24
Goods	Selling price of goods	423:5
Goods	Selling price of goods	424:17
Goods	Dealer's per cent of profit, buying and selling	425:1
Goods	Per cent of loss	425:2
Goods	Total net price Mr. Layton paid, amount saved by buying at sale	430:27
Goods	Amount of Walter's commission	437:3
Goods	Discount being given, what is the amount of bill	440:14
Goods	Net commission of salesman	440:16
Lace	Cost	311:15
Linen	Amount of linen for twelve napkins for Alice's mother	152:7

Author	Location
Abbott	Address of Pacific Division of Union Steel
Abbott	Address of Abbott to Grand Lodge with Grand Master
Adams	Adam
Alexander	Account of Adam Adam Lee Lodge to Grand of Kentucky
Allison	Letter of Pacific Coast Lodge to Grand Lodge
Allen	Letter of Allen
Allen	Account of Lee Lodge to Grand Lodge
Allen	Account of Allen
Allen	Letter of Allen to Grand Lodge
Allen	Letter of Allen to Grand Lodge
Allen	Letter of Allen to Grand Lodge

Subject Matter	Situation	Index
Cloth		
Linen	Number of yards of linen for six napkins	168:1
Muslin	Cost of a yard of muslin	73:2
Muslin	Number of yards of muslin Mrs. Watson bought	120:4
Napkins	Number of packages of 24 for 264 people	60:3
Napkins	Number of napkins Clara's mother makes from 15 yards of linene	168:3
Napkins	Area of a napkin	385:4
Ribbon	Number of badges from 22 inches ribbon	52:3
Ribbon	Number of yards in 27 feet of Mary's ribbon	136:3
Ribbon	Number of arm bands made from fifteen yards of ribbon	165:14
Ribbon	Number of badges cut from ribbon	171:1
Ribbon	Cost of twelve yards of ribbon	177:6
Ribbon	Number of yards of ribbon Eleanor is to buy	180:18
Ribbon	Amount of ribbon Esther had left	184:4
Ribbon	Number of lengths cut from ribbon six yards long	267:2
Ribbon	Cost	311:14
Ribbon	Cost	347:5
Ribbon	Cost	359:8
Ribbon	Length of two bolts of ribbon	366:1
Ribbon	Total cost	368:21
Ribbon	Cost	371:23
Ribbon	Cost	379:2
Ribbon	Number of pieces of ribbon cut from bolt	401:34
Ribbon	Number of yards of ribbon bought for $3.	444:29

Subject Matter	Situation	Index
Cloth Silk	Number of yards of silk used in house	119:2
Silk	Cost of silk per yard	346:7
Silk	Per cent of loss on silk	444:18
Cloth	Cost of cloth	269:9
Cloth	Cost of yards of cloth	271:18
Cloth	Cost of cloth	311:7
Cloth	Extend and foot bills for cloth	339:8
Cloth	Make out and receipt bill for cloth	339:10
Cloth	Width of cloth for Marion's mother	371:25
Cloth	Number of curtains made from 22,000 yards of material	380:18
Cloth	Cost of cloth	433:12
Clothing	Cost of Dick Green's outfit	15:1
Clothing	Cost of Ellen Green's outfit	15:2
Clothing	Cost of complete outfit for Mary	19:1
Clothing	Cost of uniform for whole troop, cost of shirts for whole troop	43:1
Clothing	Cost of clothing	43:2
Clothing	Cost and amount of change Alfred received from $20.00 bill	223:2
Clothing	Amount of money Peggy's father spent for clothing a year	224:15
Clothing	For one year average cost of clothes per person in Mr. Linton's family	262:4
Clothing	Make out and receipt statement for men's clothing	342:3
Clothing	Make out and receipt statement for clothing	342:4

Subject Matter	Situation	Index
Clothing	Total amount Mr. Brown paid, after discount is deducted	445:38
Clothing		
Bathrobe	Cost of bathrobe	358:5
Bathing-Suit	Savings on bathing suit	358:3
Belt	Cost of belt	358:6
Dresses	Amount of discount and the net price	428:4
Gloves	Cost of one baseball glove	219:14
Gloves	Per cent of profit	426:11
Gloves	Selling price of baseball gloves after discount	427:1
Gloves	Per cent of discount	432:1
Gloves	Per cent of discount	438:20
Handkerchiefs	Cost of one handkerchief of Helen's	82:13
Handkerchiefs	Cost of one handkerchief	104:10
Handkerchiefs	Cost of 24 handkerchiefs	225:4
Handkerchiefs	Amount of lace Mary needs for handkerchief	387:13
Hat	Part of original price was amount of reduction	273:8
Hat	Part of original price is the amount of reduction	346:6
Hat	Per cent of discount	432:14
Overcoat	Reduction was what part of original price	277:10
Overcoat	Fractional part of coat was wool	404:5
Overcoat	Usual price of overcoat	346:13
Overcoat	Dealer's profit on overcoat	423:2

Subject Matter	Situation	Index
Clothing		
Raincoat	Cost	358:4
Rubber Boots	Cost of rubber boots	358:7
Shoes	Selling price of Gym Shoes	424:16
Shoes	Per cent of increase buying and selling	439:7
Skates	Original price of skates for Henry	279:19
Skates	Cost of skates	307:12
Skates	Net price of skates	430:26
Skates	Cost of skates	358:8
Skates		
Hockey Skates	Per cent of loss on total cost	426:19
Hockey Skates	Amount of discount, per cent of discount	431:4
Suit	Amount suit was reduced and what part of first price was amount of reduction	273:7
Suit	Cost of 11 football suits	47:3
Suit	Amount David paid for suit and overcoat at sale	359:14
Suits	Selling price of two suits with discount given	439:1
Sweater	Original price of a sweater	279:18
Sweater	Sales price of sweater	358:1
Sweaters	Net price of sweater bought by Dot's mother	429:11
Coal	Number of pounds of coal bought by Sargent family	20:8
Coal	Cost of 23 tons of coal	47:10
Coal	Number tons in 64,000 pounds of coal	75:3
Coal	Cost of 98 tons of coal	80:6

Subject Matter	Situation	Index
Coal	Cost of 2 tons of hard coal. Cost of 12 tons soft coal	89:8
Coal	Cost of 8 tons of coal	131:2
Coal	Number of 100 pound sacks - a ton. Cost of 1 ton	131:5
Coal	Cost of truck load of coal	132:13
Coal	Cost	142:24
Coal	Cost	216:4
Coal	Cost	225:10
Coal	Average cost per month of coal	261:3
Coal	Cost	295:6
Coal	Total cost of coal bought by Mr. Scott	320:4
Coal	Cost of coal in as many different ways as possible	368:23
Coal	Number of pounds in long tons of coal and number in ordinary tons	368:24
Coal	Cost	399:19
Coal	Total cost of Mr. Chase's coal	401:40
Coal	Number of tons of coal should be ordered for factory for three months	401:41
Coal	Cost	417:1
Coal	Agent's amount of commission	441:21
Cubes	Number of cubes in a box	389:2
Distance	Distance from Green home to home of grandfather	15:5
Distance	From one place to another	20:7
Distance	Distance from R.R. to lake, distance boys traveled from home	20:10
Distance	Difference in distance from Chicago to Boston, and from Chicago to Springfield, Mass., traveled by Margaret and Eleanor	29:2

Subject Matter	Situation	Index
Distance	Difference from Boston to Hamburg, Germany. From New York to Hamburg	29:3
Distance	From one place to another traveled by Charles and Henry	30:4
Distance	Number of miles needed to complete trip around the world	30:7
Distance	Train travels in six hours	34:8
Distance	Number of miles mail carrier travels each week	40:1
Distance	Number of miles per hour in Bill's car	48:5
Distance	Distance Frank had to travel	53:2
Distance	Number of feet in city block	55:4
Distance	Average distance David went per hour	64:1
Distance	Average distance David went per hour on second day	64:2
Distance	Average number of miles per hour on 1 gallon of gasoline	64:3
Distance	Average mileage per gallon of gas father travels	65:4
Distance	Average number of miles per day David had gone on entire trip	65:5
Distance	Average speed per hour	75:6
Distance	Number of miles yet to travel	75:1
Distance	Number of miles from Cleveland to Chicago	78:3
Distance	Number of miles from one place to another	78:4
Distance	Driving 27 miles per hour, what time will it take to go 1107 miles	80:7
Distance	Number of hours takes man to travel 120 miles. Number of miles going 4 miles faster. Number of miles going 5 miles slower	89:6
Distance	Number of miles from Roger's house to school	121:2

Subject Matter	Situation	Index
Distance	Difference from Boston to Hanover, Vermont. From Dow Park to Hanover	[illegible]
Distance	From one block to [illegible] [illegible] [illegible]	[illegible]
Distance	Number of miles needed to complete [illegible] [illegible] [illegible]	[illegible]
Distance	[illegible] [illegible] [illegible]	[illegible]
Distance	Number of miles [illegible] [illegible] [illegible]	[illegible]
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Subject Matter	Situation	Index
Distance	Number of miles boy scouts walk in 3 hours	121:5
Distance	Difference in time James and Willis run 1/4 of a mile	121:8
Distance	Number of feet per second Robert ran	137:17
Distance	Number of inches in 16 steps of Henry	137:18
Distance	Find distance auto goes in 3/4 hour	152:6
Distance	Number of miles car went on 1½ gallons of gasoline	158:1
Distance	Distance from John's house to river	159:7
Distance	What part of trip is finished. Part still to go	180:15
Distance	What part of trip is already over. Part yet to go	183:7
Distance	Number of miles car goes in 18 minutes	183:12
Distance	Number of minutes to go 12 miles	183:13
Distance	Distance from Mr. Starr's house to his work	184:5
Distance	Distance between Dick's and Frank's houses	184:7
Distance	Find difference in distance Jack and George walked to school	184:9
Distance	With a map drawn and scale of miles given, find difference in miles between 2 places	197:2
Distance	Distance between Jim's home and his uncle's	199:2
Distance	Number of miles David rode in 3 days	199:5
Distance	Number of miles Tom walked in 6 days	199:7
Distance	Distance from Jennie's house to Waterville and back	199:8
Distance	With time-table given, find difference between different cities	202:1-8

Subject Matter	Situation	Answer
Distance	Speed of miles [illegible] in 2 hours	[illegible]
Distance	Difference in time [illegible] and [illegible] [illegible] of a mile	[illegible]
Distance	Number of feet [illegible]	[illegible]
Distance	Number of [illegible] in 10 [illegible]	[illegible]
Distance	Find distance [illegible] in [illegible] hour	[illegible]
Distance	Number of miles [illegible] of [illegible] gallons of gasoline	[illegible]
Distance	[illegible] from [illegible] to [illegible]	[illegible]
Distance	[illegible]	[illegible]
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Distance	[illegible]	[illegible]

Subject Matter	Situation	Index
Distance	Distance between 2 cities reading from time-table	203:9
Distance	Station exactly 43 miles from Portage	203:10
Distance	Distance between Cincinnati to Pittsburgh. Draw a sketch	203:11
Distance	Distance from Yonkers to Irvington, draw this picture	203:12
Distance	Distance from Wilmington to Philadelphia. Draw a sketch	203:13
Distance	Find distance from Ayer to Hoosac Tunnel as a decimal	203:14
Distance	Find difference of 2 distances	203:15
Distance	Make up problem from given time-table	203:16
Distance	Make up 3 problems from time table	203:17
Distance	Find length of bicycle trips from road map pictured	205:1-6
Distance	Distance Ed will walk in $2\frac{1}{2}$ hours	205:1
Distance	Distance Scouts hike	206:2
Distance	Distance covered by Boy Scout troop in a 5 hour hike	208:8
Distance	Distance car goes in 8 hours	208:9
Distance	Number of miles Mr. Beck's car goes on 6 gallons of gas	208:10
Distance	Distance Sam rode on bicycle in 1 hour	210:2
Distance	Perimeter of a field	219:3
Distance	Difference in distance Jimmy rode on bicycle in 2 days	222:6
Distance	Length of Jimmy's trip on bicycle	225:5
Distance	Number miles per hour club hiked	225:7
Distance	Find total number of miles	258:1

Subject Matter	Situation	Index
Distance	Number of miles boys must ride on bicycle second day	268:5
Distance	Number of miles Ruth walks to school in one week	269:7
Distance	Number of miles from Brown's home to shore	277:5
Distance	Number of miles Don's boat will go in 35 hours	294:3
Distance	Number of miles a car will go on 8.5 gallons of gas	294:4
Distance	Number of miles from Eldora to Carlisle	295:11
Distance	Distance train had left to go	303:7
Distance	Distance Mr. Herbert drives each week going to city	303:8
Distance	Rate per hour of train	303:9
Distance	Distance man walks	303:10
Distance	Number of miles Henry rode on bicycle	230:5
Distance	Distance walked in 4.5 hours	322:2
Distance	Distance yet to walk	323:7
Distance	Distance between two towns and difference in 2 distances	328:14
Distance	Length of whole trip	346:8
Distance	Number of feet Susan will go in 8 steps	368:17
Distance	Number of feet man will go in 9 steps	371:24
Distance	Distance team had to run to make touchdown	378:10
Distance	Number of feet long is city block	380:11
Distance	Number of feet above sea airplane is	382:4
Distance	Length of Moffat Tunnel	382:7
Distance	Real distance between two places on map	398:13

Subject Matter	Situation	Index
Distance	Number of steps Helen takes to go a mile	401:38
Distance	Number of steps Richard takes in walking ½ mile	447:55
Door	Find area of screen door	385:2
Door	Perimeter of screen door	386:1
Door	Estimate, then measure area of a door of schoolroom	140:18
Electricity	Amount Mr. Hill pays per hr. for gas and electricity	256:3
Examples	Number of examples Jane had worked	276:3
Examples	Fraction of the example in a test did Margaret do right	277:6
Examples	Number exercise girl solved, per cent being given	353:1
Examples	Number of examples Emily had wrong	355:1
Examples	Number of examples Robert solved correctly	356:2
Examples	Number of examples Harold had correct	356:3
Examples	Find which of John and Mary had more examples right	357:9
Examples	Per cent Margaret had correct	414:4
Fence	Cost of one mile of fencing	382:2
Fence	Amount of fence to inclose field	398:2
Field	Perimeter of field	446:47
Fishline	Length of fishline	380:9
Fishline	Length of two fishlines	378:5
Floor	Number of square feet in porch floor	139:1
Floor	Area of floor	139:3

Subject	Definition	Index
Dictionary	Number of times Index Terms to go to File	4:1,7a
Directory	Number of times Terminal enters in Waiting Q File	4:1,7b
door	Field type of Logical Door	2:1,5
door	Indicator of Access Door	2:1,1
door	Entity (1), Door Control Area of a Door or Access Door	2:1,2a
Electricity	Number of Utility Entry Door Is. Can Use for Electricity	4:1,1
Elevator	Number of Elevator Entry Doors	2:1,3
Elevator	Indicator of the Location of a Key for Elevator Is Stored	2:1,1
Elevator	Indicator Elevator Is Out Service. Use Call Maint Crews	7:1,1
Emergency	Number of Emergency Exit Doors	2:1,1
Emergency	Number of Emergency Outdoor Service Equipment	2:1,1
Emergency	Number of Emergency Portable Equipment	2:1,2
Emergency	Field Width of Text for Emergency Message	6:1,8
Employee	Per Hour Employee Cost Category	4:1,1
Floor	Door 1 Code Entry of Floor	2:1,5
Floor	Number of Doors to Outside Exit	2:1,1
Floor	Identification of Floor	1:1,1a
Floor	Length of Floor	1:1,2
Floor	Number of Access Exit to Upper Floor	2:1,1
Floor	Number Floor	1:1,1

Subject Matter	Situation	Index
Floor	Cost of flooring a room	140:15
Floor	Estimate, then measure area of school room floor	140:19
Floor	Draw to scale a school-room floor	391:12
Floor	Area of floor of a room	385:11
Floor	Cost of concrete floor	400:29
Food	Amount paid to grocer by Ellen	16:9
Food	Money spent for food by Tom, Henry, and Fred	20:9
Food	Cost of a man's board for one week	133:2
Food	Proceeds on farm produce	420:24
Food		
Beverages		
Coffee	Cost	177:8
Coffee	Cost of coffee	311:6
Coffee	Cost of coffee	311:13
Grape-juice	Number of glasses of grapejuice in five gallons	380:15
Lemonade	Selling price	2:5,6
Lemonade	Money taken in. Money earned, if 60 glasses are sold	2:7
Lemonade	Money taken in. Money earned if 50 glasses are sold	2:8
Lemonade	Money taken in. Money earned if 40 glasses are sold	2:9
Lemonade	Gain or loss if 30 glasses are sold	2:10
Lemonade	Number of glasses sold necessary to pay expenses	2:11
Lemonade	Selling price of two quarts of lemonade	130:10
Lemonade	Number of glasses in ten quarts of lemonade	368:26

Subject Matter	Situation	Index
Food		
Beverages		
Lemonade	Amount of lemonade made for picnic	379:7
Lemonad	Amount received for lemonade	400:26
Milk	Number of gallons in 1400 quarts	55:7
Milk	Number of half pints in a quart. Cort of each half pint	129:3
Milk	Total cost of milk	130:12
Milk	Number of half pint bottles of milk bought by school	130:13
Milk	Cost of milk for one year	177:20
Milk	Cost of milk for one month	130:14
Milk	Number of pints of milk in can. Number of quarts	130:15
Milk	Number of quarts of milk Field family uses in one month	143:10
Milk	Number of quarts of milk left for Edwards mother	170:4
Milk	Cost of a dozen cans of milk	177:16
Milk	Amount Sawyer family pays for milk and cream in April	256:5
Milk	Number of cups of milk to make 1½ receipt	274:3
Milk	Cups of milk needed to make bread for eight people	274:5
Milk	Weight of five gallons of milk	295:9
Milk	Cost	311:17
Milk	Cost of cans of milk	311:16
Milk	Number of quarts of milk family uses in September	345:2
Milk	Number of pint bottles filled from a ten gallon can	366:5

Subject Matter	Situation	Index
Food		
Beverages		
Milk	Gain on school milk	380:14
Milk	Number of quarts of milk Mrs. Watson had in November	399:16
Milk	Amount milkman sold in month of June	399:23
Milk	Decimal part of milk is water	404:3
Milk	Amount of Mrs. Mason's milk bill for December	433:4
Milk	Cost	444:24
Bread	Cost of four loaves	5:2
Bread	Number of loaves of bread fifth grade children should buy	60:4
Bread	Cost of bread and flour	96:4
Bread	Number of loaves of bread made from 20 pounds of flour	168:4
Bread	Number of slices cut from loaf of bread	170:7
Bread	Amount of ingredients for one loaf of bread. Receipt is given for 2 loaves	173:4
Bread	Number of loaves made from 196 pounds	269:11
Bread	Cost of each loaf of bread that Ruth bought	444:28
Butter	Amount of butter and flour to use in cake	173:6
Butter	Number of cups of butter used in four cakes	185:3
Butter	Average daily yield of butter per cow	262:9
Butter	Number of pounds of butter exchanged for cloth	447:52
Candy	Amount paid for candy by Jane, Ruth, Ellen	55:5
Candy	Amount Harry paid for 8 ounces of peanut brittle	131:4
Candy	Cost of Peanut Brittle	143:22

Subject Matter	Situation	Index
Food		
Candy	Number of six ounce packages can be filled with candy	144:17
Candy	Cost of $\frac{1}{2}$ pound box of candy	152:1
Candy	Amount of candy to fill 16 boxes	152:3
Candy	Cost of $\frac{3}{4}$ pound of candy	168:2
Candy	Number of boxes of candy filled	168:6
Candy	Number of boxes filled with candy	168:9
Candy	Amount of candy left	184:1
Candy	Number of boxes to hold 12 pounds of candy	185:5
Candy	Difference in cost of candy in $\frac{1}{4}$ pound or pound boxes	256:8
Candy	Ounces of candy bought	366:2
Candy	Number of pounds of candy Jane bought	368:4
Candy	Cost of candy	379:5
Candy	Number of pounds of candy teacher should buy for 40 pupils	380:16
Candy	Cost of candy	399:17
Candy	Profit on candy sold by Joe	437:7
Candy	Per cent of discount	439:8
Candy	Cost of candy	442:2
Candy		
Chocolate Bars	Number of chocolate bars each of four persons will have	51:1
Chocolate Bars	Cost	176:1
Chocolate Bars	Cost	311:5
Fudge	Number of plates of fudge can be made with $1\frac{1}{4}$ cakes of chocolate	185:2

Subject Matter	Situation	Index
Food		
Candy		
Fudge	Number of bags Betty needed for her fudge	255:1
Fudge	Number of boxes filled with fudge	307:15
Cheese	Cost	303:1
Corn-flakes	Time 12 packages of cornflakes last in Jone's family	170:3
Cornmeal	Number of packages of cornmeal to buy	323:12
Cream	Number of half pints in a gallon. Cost of a gallon	129:8
Cream	Amount dealer received for cream	368:22
Eggs	Cost of 72 dozen eggs	40:6
Eggs	Number of dozen 132 eggs contain	60:5
Eggs	Number of eggs in 30 dozen	81:5
Eggs	Number of pounds 36 eggs weigh	82:11
Eggs	Average number of eggs Dick got in 1 day from hens	85:5
Eggs	Number of dozen laid in four days	104:11
Eggs	Cost of 36 eggs	135:2
Eggs	Cost of eggs	154:4
Eggs	Part eight eggs are of one dozen	180:9
Eggs	Cost of 4 eggs	205:7
Eggs	Share of eggs Katherine had for care of hens	206:3
Eggs	Cost of one dozen eggs	216:13
Eggs	Cost of the three dozen eggs	219:2
Eggs	Number of eggs 6 hens hatched	222:10
Eggs	Number of eggs Walter received	278:17
Eggs	Number of dozen of eggs needed for cakes	399:14

Subject Matter	Situation	Index
Food		
Eggs	Per cent of the eggs did Mary receive for finding them	412:21
Eggs	Per cent of increase	439:4
Eggs	Per cent of drop in price of eggs	439:6
Feed	Cost of ½ ton of feed	294:24
Feed	Cost	306:21
Fruit	Average yearly profit of fruit grower. Per cent of increase given	408:5
Fruit		
Apples	Selling price of 16 baskets of apples	47:4
Apples	Selling price of 136 boxes of apples of Mr. Case	82:12
Apples	Profit grocer made on 120 apples	89:5
Apples	Cost of bushel of apples	129:6
Apples	Amount received for apples	159:8
Apples	Number of apples bought for $1.00	177:12
Apples	Number of bushels of apples gotten from 30 trees	177:19
Apples	Weight of apples	208:6
Apples	Number of bushels of apples in load	262:11
Apples	Number of pecks of apples gotten from 40 trees. Number of bushels	345:1
Apples	Cost of one bushel of apples	367:13
Apples	Difference in price of apples from store and from farmer	368:15
Apples	Cost of one dozen apples	368:16
Apples	Merchant's commission in selling apples. Amount farmer received	419:17
Apples	Amount of money farmer had left after exchanging apples for flour	445:33

Subject Matter	Situation	Index
Food		
Fruits		
Apples	Change left from 50¢ buying apples and nuts	87:2
Bananas	Cost of one dozen bananas	177:17
Bananas	Cost of one dozen bananas	256:6
Berries	Selling price of one box of berries	74:9
Berries	Number of quarts of berries Josephine had	185:1
Berries	Cost of one quart of berries	210:1
Berries	Profit George made on a crate of berries buying and selling	223:7
Berries	Amount received for berries	224:14
Berries	Number of crates of berries packed, number of boxes left	290:2
Berries	Cost of berries	311:4
Berries	Number of boxes of berries bought for $3.00	311:9
Berries	Number of apple trees Tom is able to buy	445:32
Black-berries	Cost of crate of blackberries	40:3
Cherries	Cost of cherries	130:11
Cherries	Amount received for cherries	143:23
Cherries	Number of pecks of cherries needed to earn $1.00	311:12
Cherries	Number of quarts of cherries Walter had for picking them	357:10
Cherries	Difference in amount of cherries two trees yielded	379:4
Cherries	Difference in price of cherries	399:22
Cherries	Per cent of the 20 quarts of cherries did Joe receive	411:20

Subject Matter	Situation	Index
Food		
Fruits		
Grapefruit	Amount grocer paid for crates of grapefruit	53:4
Grapefruit	Number of grapefruit bought for 50¢	176:3
Grapefruit	Cost of 12 grapefruit	177:5
Grapefruit	Cost of a dozen grapefruit	177:9
Grapefruit	Cost of a dozen grapefruit	177:15
Grapefruit	Cost of 8 grapefruit	271:19
Lemons	Cost of lemons	2:1
Lemons	Number of glasses of lemonade	2:4
Lemons	Change left after buying lemons	135:3
Lemons	Cost	176:1
Lemons	Amount of change from buying lemons	224:12
Lemons	Cost	311:18
Lemons	Cost	399:15
Lemons	Amount Henry wished to receive for his lemons	409:11
Melons	Cost of crate of melons bought by fruit dealer	55:2
Melons	Cost of 6 melons	195:15
Melons	Number of melons bought for 50¢	216:15
Melons	Amount of commission. Amount returned to grower	439:11
Oranges	Number of dozen oranges in 156	73:3
Oranges	Having given away to friends 18-15-12 oranges, how many left	83:6

Subject Matter	Situation	Index
Food		
Fruits		
Oranges	Difference between buying oranges by dozen or a piece	88:8
Oranges	Cost of oranges a dozen, for 6, for 3, for 5, for 9	135:1
Oranges	Amount Mrs. Truett paid for two dozen oranges	141:10
Oranges	Boy's gain in selling oranges by piece after buying per dozen	141:11
Oranges	Cost	176:2
Oranges	Cost of three dozen oranges	177:10
Oranges	Number of oranges bought for 30¢	177:11
Oranges	Cost	343:14
Oranges	Cost	380:13
Oranges	Per cent of a dozen oranges is four oranges	412:22
Oranges	Cost	417:20
Raisins	Number of cartons grocer fills with raisins	346:10
Peaches	Cost of peaches per can	73:5
Peaches	Amount received for 240 peaches	250:6
Peaches	Number of quarts of peaches in each basket? Part of bushel did each basket hold.	371:27
Peaches	Difference in price of peaches	380:12
Peaches	Proceeds on carload of peaches	420:23
Pine-apple	Cost of one pineapple	73:4
Pine-apple	Number of cans of pineapple bought for $1.00, for $2.00	177:14

Subject Matter	Situation	Index
Food		
Fruits		
Raspberries	Draw to scale a row of raspberries and find distance of plants apart	392:22
Raspberries	Selling price of raspberries of Sam's	142:18
Strawberries	Average of boxes picked by one child	160:10
Strawberries	Amount farmer received for berries, price paid for picking	295:12
Strawberries	Find which crates of berries was cheaper	379:3
Strawberries	Tony's commission on strawberries	420:21
Grains		
Flour	Cost of barrel of flour	55:3
Flour	Number of pounds can be put in sack that contains 1/8 of barrel	75:2
Flour	Number of pounds of flour needed to make 100 loaves of bread	268:8
Flour	Number of cups of flour for a double receipt	274:2
Flour	Flour needed to make 6 muffins	274:4
Flour	Number of pounds of flour Hugh's father should have on trip	320:3
Flour	Cost of flour per pound	442:1
Flour	Number of bags flour filled	445:34
Flour	Cost of flour per pound	347:18
Flour	Number of cups of flour to use in biscuits	172:1
Oats	Number of days six bushels of oats will last for Mr. Johnson's horse	129:2

Subject Matter	Situation	Index
Food		
Grains		
Oats	Cost of a bushel of oats	262:10
Oats	Cost	271:17
Groceries	Amount of grocery bill for five months of Mrs. Brown	19:3
Groceries	Amount of grocery bill for Mrs. King	20:5
Groceries	Amount paid for groceries by Janet	20:6
Groceries	Cost of groceries for Dan's mother	33:8
Groceries	Cost of groceries for Jane Russell	34:2
Groceries	Change given to customer correct	83:5
Groceries	Weight of Mary's package of groceries	122:9
Groceries	Amount Mrs. Walker spent for groceries	197:1
Groceries	Amount of Mrs. Johnson's bill for groceries	250:3
Groceries	Amount of change left after buying groceries	256:2
Groceries	Average amount paid per month for groceries	261:2
Groceries	Amount store owed woman selling butter and eggs and taking groceries	262:5
Groceries	Total of Hugh's provisions	320:2
Groceries	Make sales slips and find totals, items given	333:1-4 334:5-6
Groceries	Make bill, make extensions, find total and receipt bill for groceries	338:2-4
Groceries	Extend and foot bills for groceries	339:6-7
Groceries	Write bill, make extensions, find total, and receipt bill for groceries	339:5

Subject Matter	Situation	Index
Food		
Groceries	Check extensions and footings of bill to correct any errors	339:13
Groceries	Make bill for items of groceries using local prices, foot and receipt	340:14
Groceries	Make bills for items purchased at local store	340:15
Ice	Amount used	2:3
Ice	Cost of 400 pounds of ice	214:22
Ice	Cost	215:30
Ice	Number of pounds ice loses in melting, number of pounds delivered, per cent given	415:17
Ice Cream	Number of quarts of ice cream to serve 24 children	183:9
Ice Cream	Number of cones needed for two gallons of ice cream	224:11
Ice Cream	Number of quarts of ice cream needed for 48 children	366:6
Ice Cream	Cost	379:1
Ice Cream	Amount of ice Cream three children sold	374:14
Ice Cream	Cost	398:3
Ice Cream	Number of gallons of ice cream in 30 quarts	398:8
Ice Cream	Per cent of gain on ice cream	446:40
Ingredients	Amount of ingredients to use to make 30 biscuits	273:1
Ingredients	Amount of ingredients for crullers	446:44
Jelly	Number of glasses needed to put jelly into	183:8
Lunch	Amount of money spent each day by George	48:1
Ingredients	Amount of ingredients to use to make cherry pie filling to use up all the cherries	273:2

Subject Matter	Situation	Index
Food		
Lunch	Amount Jack spent on lunches and trolly fare in 20 days	87:5
Meat	Find amount of meat Agnes bought	184:2
Meat	Cost	205:9
Meat	Cost of a pound of meat	222:12
Meat	Find whether bill for meat was correct	223:4
Meat	Cost	271:15
Meat	Cost	271:20
Meat	Cost	316:1
Meat	Cost of meat	398:12
Meat	Per cent of increase in price of meat	439:10
Meat		
Beef	Cost of beef	305:13
Beef	Cost of beefsteak	221:1
Beef	Price of dried beef bought by Ruth	366:3
Chicken	Cost of 120 pounds of chicken	41:7
Chicken	Price per pound of Dick's chickens	223:8
Chicken	Number of chickens Dick had	276:1
Chicken	Number of chickens Dick sold	353:1
Chickens	Number of chickens Dad had left after selling 3 of them	408:4
Chickens	Per cent of chickens did Dick sell	414:1
Chickens	Selling price of chickens on order to make profit	424:19
Chickens	Per cent of chickens sold	446:41
Ham	Cost	154:3
Ham	Cost of 7 pounds of ham	182:2

Subject Matter	Situation	Index
Food		
Meat		
Ham	Cost	359:10
Pork	Cost	305:19
Steak	Cost	154:1
Steak	Cost of one pound of steak	158:5
Steak	Cost of twelve ounces of steak	180:20
Steak	Find weight of steak that is lacking	184:3
Steak	Difference in cost of steak	320:6
Steak	Cost	346:4
Steak	Cost	347:16
Steak	Number of pounds of steak Eleanor's mother bought	369:2
Molasses	Number of gallons left in barrel	124:5
Nuts	Number of three pound bags to hold sixty pounds of nuts. Selling price	87:6
Peanuts	Selling price and gain of peanuts for Harry	129:4
Peanuts	Difference in sales of peanuts	368:25
Pastry		
Cakes	Number of cakes left at party	95:5
Cakes	Difference in prices of 100 cakes	250:9
Cake	Price Baker charged for whole cake	290:15
Cookies	Number of packages of cookies that can be bought for $2.00	310:7
Crullers	Number of crullers left	295:9
Pie	Fraction of pie Mary gave Tom	156:1
Pie	Fraction of pie each of four children received	163:1
Pie	Cost of one pie	276:1

Subject Matter	Situation	Index
Food		
Pastry		
Rolls	Price of a dozen rolls	276:2
Rolls	Cost of a dozen rolls	345:3
Popcorn	Cost of 3/4 pounds of popcorn	186:10
Receipt	Write a receipt for cake twice the size of one given	274:6
Receipt	Amount in six different variations of receipt for raspberry sauce	275:8
Receipt	Write receipt of cranberry sauce for twelve	275:9
Receipt	Look up a receipt for candy, and make up a problem for class to solve	275:11
Receipt	Amount of butter and flour to use in jumble receipt	172:3
Sugar	Cost	2:2
Sugar	Part of whole mixture is sugar	275:10
Sugar	Cost of sugar Mrs. Wright paid per pound	73:1
Sugar	Change left after buying 50 pounds of sugar	89:1
Sugar	Change left after buying groceries	89:4
Sugar	Amount of sugar to use in cup cakes	173:5
Sugar	Cost of twelve pounds of sugar	176:2
Sugar	Cost of 100 pounds of sugar	177:7
Sugar	Cost of one pound of sugar	186:8
Sugar	Cost of sugar and lemons	223:5
Sugar	Difference in price of sugar in two stores	224:16
Sugar	Total amount of sugar bought	258:2
Sugar	Cost	271:16

Subject Matter	Situation	Index
Food		
Sugar	Amount of sugar to use for two cakes	274:1
Sugar	Amount of water and sugar needed in jam when there are twelve cups of berries	275:7
Sugar	Cost	303:4
Sugar	Number of bags 100 pounds of sugar will fill	320:1
Sugar	Freight charges on shipment of sugar	321:11
Vegetables	Ned's commission on selling vegetables and fruit for one month	420:20
Vegetables	Henry's selling price of vegetables	88:12
Vegetables		
Beans	Price of one bushel of beans	141:12
Beans	Amount Dorothy received for beans she raised	322:11
Corn	Number of cases of 24 to hold 960 cans	79:2
Corn	Cost per can	79:3
Corn	Number of cans bought for 50¢ - for $1.00	177:13
Corn	Number of bushels of corn in wagon	222:13
Corn	Number of bushels in one ton of corn	368:18
Lettuce	Selling price of lettuce	87:3
Onions	Jane's commission on onions. Amount farmer received	419:18
Potatoes	Cost of 15 pounds of potatoes	347:7
Potatoes	Number of pounds in a peck. In a ½ peck	367:9
Potatoes	Cost of a peck of potatoes	367:10
Potatoes	Cost of one peck of potatoes	367:12
Potatoes	Profit a dealer makes on six barrels of potatoes	368:20
Potatoes	Number of sacks farmer can fill with potatoes	371:29

Subject Matter	Situation	Index
Food		
Vegetables		
Potatoes	Number of pounds of potatoes Mrs. Burton received	401:33
Potatoes	Difference in two prices for potatoes	447:57
Potatoes	Weight of Peck of potatoes	55:1
Potatoes	Cost of bushel of potatoes	129:7
Potatoes	Question about buying potatoes	130:16
Potatoes	Number of pounds truck can carry without being overloaded	132:15
Potatoes	Amount of pounds in peck of potatoes. Amount cheaper when bought by peck	142:13
Potatoes	Cost	142:25
Potatoes	Cost of nine bushels of potatoes	206:1
Potatoes	Weight of potatoes	208:7
Potatoes	Cost	256:7
Potatoes	Cost of one bushel of potatoes	276:4
Peas	Amount Sam received for six pecks of peas	129:5
Peas	What part of a peck of peas Mrs. Snow used	185:4
Peas	Amount Henry received for peas	366:4
Freight	Cost of freight of twenty pounds of furniture	214:23
Freight	Freight on shipment	215:31
Freight	Freight on shipment	215:32
Furniture	Cost to ship 200 pounds of furniture from one place to another	132:6
Furniture		
Hat Rack	Draw to scale a hat rack and find number of hooks	392:21
Mirror	Draw to scale a mirror	392:20

Subject Matter	Situation	Index
Furniture		
Table	Area of a table	385:12
Rug	Number of square feet in rug	139:2
Rug	Cost of cleaning a rug	139:10
Rug	How to find square feet in various articles	140:14
Rug	Draw to scale a rug	391:4
Rug	Draw to scale a rug	392:18
Rug	Area	385:10
Rug	Cost of cleaning a rug	385:18
Rug	Perimeter	387:10
Gas	Cost of gas in December	305:12
Gas	Gas bill for July	305:20
Gas	Cost	309:1
Gasoline	Number of gallons of gas needed for trip in Mr. Wood's car	5:9
Gasoline	Number of gallons of gas Mr. Green bought. Cost of his gas	16:10
Gasoline	Number of miles on gallon of gas in Mildred's car	48:2
Gasoline	Number of gallons used in going 168 miles	73:7
Gasoline	Number of gallons used in going 234 miles	73:8
Gasoline	Number of miles car goes on 360 gallons of gasoline	79:1
Gasoline	Amount of gas when tank was half full	158:3
Gasoline	Part of a tankful of gas did Henry's father use	184:6
Gasoline	Cost	311:1-2

Subject Matter	Situation	Index
Glass	Number of square inches in pane of glass	139:4
Glass	Estimate area of a window pane, then measure, find its area	140:17
Games	Part of basketball teams' games won and part lost	225:6
Games	Part of games did they lose	272:3
Games	Number of games they played and what part they won	272:5
Games	What part of games played did they win	273:6
Games	Part of baseball games played. Did they win? Lose?	277:4
Games	Part of games played is number of games won	278:7
Games	Number of games victor's team won	278:8
Games	Part of games won. Part lost	278:9
Games	Part of games did baseball team win, part they lost	328:10
Games	Number of games team loses. Games won	353:7
Games	Number of games team wom and lost	356:5
Games	Number of games team lost, per cent being given	409:9
Games	What per cent of games did team win	411:18
Games	Per cent of games a team lost	411:19
Games	Per cent of the games did team win	412:36
Games	Per cent of games did Cubs win	415:11
Games	Per cent of games did the team win	437:8
Games	Per cent of games lost. Per cent of games won	439:5
Games	Per cent of games did baseball team win. Per cent lost	443:8

Subject Matter	Situation	Index
Games	Per cent of games played, did the team win.	446:49
Garage	Amount saved for garage by Mr. Whitman each month so as to pay for it in 6 months	55:6
Grades	Average grade in spelling for Mary	84:2
Grades	Tom's average grade in tests	85:7
Grades	Average grade in spelling of Jane for one month	89:2
Grades	Average for tests for five months	279:14
Granite	Volume of a block of granite	389:4
Graph	Draw to show number of examples children did in test	400:25
Graph	Questions about graph of problem solved by four boys	410:5
Gravel	Cubic feet of gravel in a box	389:3
Guns	Net price of shotguns	430:22
Hay	Number of tons in four loads of hay	199:6
Hay	Weight of hay when farmer dries it	266:5
Hardware	Write bill, make extensions, find total and receipt bill	338:1
Hardware	Extend and foot bills for hardware	339:9
Height	Ruth's height in inches	136:4
Height	Difference in height of three girls	136:12
Height	Amount of Andrew's growth in two months	174:3
Height	Average growth of Leon a year	195:14
Height-	Number of inches in height Walter grew in four years	199:1
Height	Amount of inches river rose in a storm	199:3
Height	Number of inches Eleanor needs to grow to reach certain height	205:8

Subject Matter	Situation	Index
Height	Number of inches Richard grew in the month	212:2
Height	Number of inches taller Jack is than Cora	219:9
Height	Find how many times Robert's growth was that of his sister's	268:10
Height	Difference in height between Niagara Falls and Sutherland Falls	29:1
Height	Ralph's average gain per year	301:3
Height	Number of inches boy grew in 18 months	302:7
Height	Height of Mary	369:3
Height	Difference in height between Betty and Polly	371:26
Height	Number of inches Henry must grow to be as tall as his father	376:13
Height	Difference in height between Bob and Dick	444:30
Height	Difference in heights of Marion and her father	378:6
Height	Height of tallest boy in class	379:8
Height	Amount George must grow to be a foot	398:1
Height	Which of 4 boys is the tallest	400:30
Height	No. miles in height of Mount Everett	401:37
Height	Difference in height of boys - Hugh, John, George, and William	446:45
House	Number of months it takes Mr. Carter to pay for his house	80:8
House	Agents commission in selling Mr. Carter's house	419:4
House	Amount of real estate agents commission for selling house	442:4
House	Amount Mr. Blake received for house after he paid commission	440:12
House	Amount of interest Mr. White paid on his loan for one year	440:17
House	Selling price of house	423:4

Subject Matter	Situation	Index
House		
Henhouse	Find whether henhouse would be large enough for 7 hens	225:9
Inhabitants	Population of village in 1930, having increased 25%	362:17
Inhabitants	Per cent of people living on farm	404:2
Inhabitants	Population of city in 1925, per cent of increase given	409:10
Jumps	Average length of Henry's jumps	85:12
Jumps	Length of tom's jump	221:2
Jump	Number of inches Joe jumped in a broad jump	369:1
Jumps	How much farther can Ned jump than Dick	375:1
Land	Cost of building lot	139:7
Land	Difference in size of two gardens	139:11
Land	Difference in size of two gardens	140:12
Land	From diagram find area of first half, then the whole tennis court	140:13
Land	Find out width of 13 building lots	303:12
Land	Draw to scale a piece of land	392:15
Land	Cost of five acres of land of John's father	182:1
Land	Cost of $2\frac{1}{4}$ acres of land	185:7
Land	Part of acre each of six girls had	267:4
Land	Number of acres of land Mr. Brown sold	268:6
Land	Value of a whole acre of land	276:1
Land	Number of acres left	295:10
Land	Number of acres of land real estate dealer sold	361:1

Subject Matter	Situation	Index
Land	Number of acres in a field	386:21
Land	Cubic feet of soil to cover lawn 1 foot deep of Mr. Brown's house	389:8
Land	Draw to scale a corner lot	391:11
Land	Divide this drawing to show four lots	392:16
Land	Number of acres are planted	442:5
Land	Number of acres planted with 6 bushels of corn	447:51
Land		
Garden	Amount Mr. Baker paid per acre of land	53:7
Garden	Draw to scale a garden	391:9
Garden	Length of the garden	158:4
Garden	Fraction of acre in each plot of school garden	163:2
Garden	Find part of acre each of four children will have	170:2
Garden	Find area of garden	385:1
Lime	Number of loads of 1000 pounds - a ton cost of lime	131:3
Lime	Cost of carload of lime including freight	321:10
Line	Draw to scale a line	391:14
Line	Draw to scale a line	391:7
Line	Draw to scale a line five feet long	391:1
Line	Draw to scale a line	391:13
Lines	Number of lines 5.6 inches stands for in a graph, the scale being given	294.5
Locomotive	Number of tons in weight of locomotive	398:9
Lumber	Cost	304:4
Lumber	Cost	305:15-18
Lumber	Cost	306:22

Subject Matter	Situation	Index
Lumber	Cost	307:5
Lumber	Cost	321:7
Lumber	Cost	343:15
Lumber	Number posts used in making a fence	380:19
Lumber	Number of telephone poles in lines	383:14
Lumber	Length of board James needed for sand-box	387:14
Lumber	Cost	402:20
Lumber	Cost	444:22
Lumber Molding	Number of feet and yards of picture molding to go around school room	387:7
Molding	Number of feet of molding Willis must buy to frame six pictures of one size	443:7
Mandolin	Per cent of profit on a mandolin	443:17
Magazines	At 15¢ each find selling price of 75 Magazines sold by Tom	81:1
Magazines	Tom's commission on magazines	419:19
Magazines	Profit Peter made on 100 magazines	223:3
Measures	Number of inches in 18 feet	81:7
Measures	Number of yards in eighteen feet	82:6
Measures	Number of quarts in 2 gallon ice cream freezer	129:1
Measures	Number of feet in 50 yards	136:2
Measures	Measure pictured rectangle then find area	140:16
Measures	Copy 26 commodities and name usual kind of measure of each	141:1
Measures	Part of pint cup holds when two thirds full	170:9
Measures	Number of feet in 25 rods	209:11
Measures	Number of yards in 100 rods	209:12

Subject Matter	Situation	Index
Measures	Number of inches in 100 meters	209:18
Measures	Circumference of circle	295:8
Measures	Perimeter of a four foot square	387:4
Measures	Cubic feet of air space pupil has in school	404:4
Marble	Volume of a block of marble	309:14
Money	Amount Edith has in bank	5:5
Money	Amount of Fred's earnings left	5:6
Money	Amount saved for Christmas gifts by Ellen	15:3
Money	Amount earned in shoveling snow by Dick	15:4
Money	Allowance for one week	15:6
Money	Money spent for Christmas gifts by Mr. and Mrs. Green	16:8
Money	Difference in amount paid by town per pupils in schooling	26:4
Money	Amount Walter has in bank	33:1
Money	Amount of money saved by Henry	33:2
Money	Mr. Russel's wage daily	34:3
Money	Amount needed to buy bicycle	34:7
Money	Amount collected for school play	34:9
Money	Profit made on sweater	47:5
Money	Amount of Ned's savings	55:9
Money	Amount saved each month in order to buy victrola	75:4
Money	Amount needed to buy sweater for Robert	81:2
Money	Amount Agnes will spend for gift for mother	81:4

Subject Matter	Situation	Index
Money	Number of 2¢ pieces in $5.00	81:6
Money	Amount each of the thirty six pupils paid for picnic	82:10
Money	Value of one pound of gold dollars	82:16
Money	Change left from $1.00 after buying five articles	83:1
Money	Amount Ned had in bank	83:2
Money	Amount children needed to pay for fitting playground	83:3
Money	Amount Mary saves in year more than Jane and Robert together	83:7
Money	Amount Marion has left after doing her shopping	87:4
Money	Amount of laundry bill	88:7
Money	Amount needed to go camping by David	88:10
Money	Amount left to spend on sand boxes	88:11
Money	Amount saved in buying potatoes from farmer by bushel	89:7
Money	Ned's profit on 100 newspapers	89:3
Money	Amount left from $2.00 after shopping	119:8
Money	Part of money Edith's brother saves	124:7
Money	Amount saved in buying cherries by bushel instead of by quart	129:9
Money	Questions about amount saved buying apples and potatoes by bushel	130:18
Money	Amount saved by buying large jar of candy	132:16
Money	Amount saved by buying coal by ton	132:17
Money	Amount saved by buying cocoa by the pound	132:18
Money	Amount saved by buying barrel of flour	132:19
Money	Amount boy earned in three and one half hours	134:11

Subject Matter	Situation	Index
Money	Amount saved buying knives by the dozen	135:5
Money	Amount Jack earned in one hour	142:19
Money	Amount spent by family for rent	152:9
Money	Amount saved by Robins family	152:10
Money	Amount Ned makes by selling newspapers	168:10
Money	Amount of ticket sale paid to owners	219:12
Money	Money Herbert had before he went shopping	229:9
Money	Profit Ned makes on 60 papers	223:1
Money	Amount Joe saved of earnings towards price of bicycle	223:9
Money	Amount saved by taking magazine for a year	224:13
Money	Amount storekeeper makes on each gross of pencils	224:17
Money	Amount Mrs. Wood saved buying remnant of cloth	228:8
Money	Find for your school, the cost of books, supplies, etc., and report to class the average cost per pupil	227:9
Money	Amount of income does a family plan to save	228:10
Money	Amount of interest on $18.00	227:2
Money	Amount left after buying parts for car	250:5
Money	Money left after buying bicycle	262:6
Money	Amount saved by buying groceries at cash and carry instead of charge and delivery store	271:1-14
Money	Amount Oscar saved towards bicycle	272:4
Money	Part of income did Nora's family save	277:12
Money	Amount collected for test for Boy Scouts	279:1

Subject Matter	Situation	Index
Money	Amount city paid to have snow removed	290:1
Money	Did Ned have enough money left to buy a glove after buying ball and bat	290:3
Money	Number of weeks it takes boy to save $12.00	303:5
Money	Time it takes man to save $350.00	343:1
Money	Amount Mr. Carter saved by buying chairs at sale	358:2
Money	Saving on paying bill promptly	358:10
Money	Amount saved by prompt payment of bill	359:11
Money	Freight charges on shipment	359:11
Money	Amount Mr. Carter's bill with 2% off for prompt payment	359:12
Money	Amount Mrs. Haven's saving by buying corn by dozen cans	359:13
Money	Profit of orange grower after estimating answer	362:1
Money	Amount Henry's father paid for his garden	362:18
Money	Amount Jim earned in 90 minutes	367:11
Money	Amount James paid for work per day	402:3
Money	Amount Francis Dale planned to spend. Amount he is to save per year	409:6
Money	Percent of money did Mr. Lambert spend for shoes	414:3
Money	Amount of gate receipts Giants had their per cent given	415:12
Money	Difference in amount spent for rent, and amount planned to save	416:5
Money	Interest Tom paid his sister	435:1

Subject Matter	Situation	Index
Money	Loss on sugar	424:18
Money	Discount given find amount Mary saved by paying cash for radio	430:29
Money	Find whether or not bill for freight was correct	305:14
Money	Amount Jones family allowed for clothing per year	321:8
Money	Freight charges on shipment	322:3
Money	Freight charges on a shipment of 460 lbs.	322:13
Money	Number of quarters in $50.00	323:4
Money	Balance of personal cash account	326:2-3-4
Money	Cash account of farmer	327:6
Money	Cash account of baseball association treasurer	327:7
Money	Amount family spends for food for a month, for one year	330:3
Money	Amount man spends for food, rent, and clothing	330:4
Money	Amount spent on food, clothing and other expenses. Amount saved	330:5
Money	Amount of interest Jean received	435:2
Money	Amount of interest due Marion from her father	435:3
Money	Amount of interest Mrs. Newkirk paid each year	435:4
Money	Amount of interest Robert received	436:5
Money	Amount Dick paid in loan including interest	436:24
Money	Amount of interest Nora had to pay on loan	436:25
Money	Amount of interest Robert had to pay on loan	436:26

Subject Matter	Situation	Index
Money	Amount of interest Mr. Dare pays semi-annually	436:27
Money	Amount of interest Margaret receives every six months on her insurance	437:29
Money	Total amount Will paid his uncle including interest	437:30
Money	Amount of interest Mr. Norton receives each year	437:35
Money	Per cent of profit	438:12
Money	Amount saved by subscribing for magazine yearly. Per cent is this.	438:19
Money	Amount of interest man must pay on loan	438:22
Money	Amount of interest farmer paid on loan. Amount per month	440:13
Money	Amount of interest Henry paid on loan for four years	440:18
Money	Amount saved by paying electric light bill promptly	441:20
Money	Balance of Robert's cash account	443:6
Money	Commission and proceeds on sale	443:10
Money	Amount of money Dick's brother saves	443:15
Money	Freight charges on goods	444:20
Money	Amount Dan should received for weeding garden	444:23
Money	Amount of interest Dick paid on loan for two years	445:37
Money	Amount of agent's commission for collecting rent	446:43
Money	Amount of interest Hec will receive in two years for loan	446:46
Money	Profit newsboy makes on selling papers	447:50

Subject Matter	Situation	Index
Money		
Allowance	Amount of money Arthur has to buy sweater and cap	82:9
Allowance	Part of allowance Joe plans to save	124:4
Allowance	Amount spent in 1 year for clothing, school supplies, etc.	331:9
Allowance	Amount of Donald's allowance this year	357:11
Allowance	Amount of allowance Mrs. Thomas has left at end of week	372:17
Allowance	Amount from allowance Walter Taylor saved	402:2
Budget	Make your own, using per cents	416:8
Budget	Question on budget	329:1
Budget	Amount of difference items of a budget	330:2
Budget	Find why it is wise to use a budget	330:3
Budget	Make list of reasons for using budgets	331:13
Budged	Make a budget for child who receives allowance	331:11
Cash Account	Make cash account for child in problem	331:12
Checks	Question about checks	337:1
Checks	Write checks to pay bills	339:12
Earnings	Amount earned in one summer	40:2
Earnings	Jerry's earnings in a school week. In a whole week	44:4
Earnings	Amount left after board room and carfare are spent	47:7
Earnings	Amount of earnings in one year and nine months of Dick's father	47:8
Earnings	Amount Lucy earned in six months	47:9
Earnings	Margaret's wages a day	53:1
Earnings	Average amount of each of 20 boys per week earned	80:11

Subject Matter	Situation	Index
Money		
Earnings	Amount Arthur earned in a year at $1.75 a week	81:3
Earnings	Amount John had left after buying book and a purse	83:4
Earnings	Average weekly earnings for six weeks of Robert	85:9
Earnings	Amount boy earned in 30 minutes	134:9
Earnings	Amount Henry earned in 4 months	174:1
Earnings	Amount Jack earns in one month of 25 days	208:1
Earnings	After buying doll how much did Ethel have left	219:3
Earnings	Part of salary Henry's father saves a month	228:5
Earnings	Amount Mr. Bowen plans to save each month on the average	228:6
Earnings	Amount Mr. Burton plans to spend on food, clothing. Amount saved	228:7
Earnings	Amount Robert's brother saved in one month	256:1
Earnings	Amount man receives for three hours work	262:7
Earnings	Number of weeks it took Herman to earn $42.00	262:8
Earnings	Amount George received for week's work	269:5
Earnings	Number of hours necessary to work to buy baseball glove	269:8
Earnings	Amount Daniel should get for work	279:8
Earnings	Number of hours it takes to earn $4.00	311:11
Earnings	Number of days to earn $18.00	322:14
Earnings	Amount ofpay for weeding garden belonged to each of two boys	347:6

Subject Matter	Situation	Index
Money		
Earnings	Amount Marion earned helping her mother	374:15
Earnings	Amount Hilda earned	377:17
Earnings	Amount Paul earned in one day	378:8
Earnings	Amount Robert Brown earned each day	378:11
Earnings	Amount man earns in 7 months	381:2
Earnings	Amount of time Roger works. Amount he earns	399:18
Earnings	Amount man earned in one day	400:31
Earnings	Per cent of earnings did Marion save	414:6
Earnings	Total earnings for Sally one week, including commission	420:22
Earnings	Amount Bob earns in six days	433:3
Earnings	Length of time it takes Hugh to earn price of bicycle	433:7
Earnings	Amount Kate's father earned per week after increase	438:23
Earnings	Number of weeks it will take a man to earn $450.00	443:13
Earnings	Average daily earnings of Allen	444:19
Earnings	Fractional part of earnings did Edith spend	444:21
Earnings	Amount Tom's father plans to save in a year	445:35
Expenses	Amount of John's share	226:5
Expenses	Amount of Mr. Johnson's living expenses after increase	361:2
Income	Part of income does man spend for rent	330:6
Income	Part of income spent for food	331:7
Income	Fractional part of income spent for rent	331:8

Subject Matter	Situation	Index
Money		
Income	Part of income saved	331:10
Income	Amount of this income saved	330:2
Income	Amount of income John's father plans to save	409:8
Income	Copy Phil Preston's budget and find amounts planned to spend on each item and total	416:1
Income	Per cent of income spent for food in one month	416:2
Income	Per cent of income spent for clothing in one month	416:3
Income	Per cent of income saved is given. What amount is saved. Difference between this and what they planned to save	416:4
Income	Difference in money saved, using the budget	416:6
Income	Per cent of salary does Mr. Taylor pay for rent	447:53
Salary	Amount of Mr. Wright's salary a year	41:8
Salary	Miss Arnold's salary per year	53:3
Salary	Salary for one year of Miss Berton	86:8
Salary	What part of his salary does Mr. Palmer save	180:14
Salary	Part of his salary Mr. Goli saves	182:3
Salary	Amount Mr. Parker plans to save	362:3
Salary	Amount of Mrs. Watson's salary when increased 18%	362:16
Salary	Mr. Taylor's salary per month	398:5
Salary	Amount of salary president of company receives for month	445:36
Savings	Amount Oakridge saved on each pupil each year	26:5

Subject Matter	Situation	Index
Money		
Savings	Average amount Helen saved each week in February	85:6
Savings	Robert's average savings for six weeks	85:10
Savings	Amount Dean saved in bank for one year	208:2
Savings	Amount Katherine saved in one year	208:3
Savings	Amount Jack saved in 100 days	219:11
Savings	Amount Dick puts in bank in a year	227:1
Savings	Amount Marion deposits in a year	227:3
Savings	Amount Mary's father saves each month	227:4
Savings	Amount John saves each month on an average	330:1
Savings	Amount Mr. Harris had in bank at end of month	249:2
Savings	Number of days it takes Herbert to save $10.00	250:7
Savings	Per cent of income did they save	416:7
Wages	Money Phil earned in six months. In a year	40:5
Wages	Amount Robert earned in six days	269:4
Wages	Amount boy earned in one week	321:9
Wages	Wages paid for week to John's father	346:5
Wages	Amount of raise in wages	346:9
Wages	Per cent of wages did Tim save a month	407:23
Motorboat	Time motorboat rented and cost	400:27
Nails	Number of pounds of nails used on porch	120:6
Nails	Profit on selling nails	294:25
Nails	Freight charges on nails	306:23

Subject Matter	Situation	Index
Numbers	Number multiplied by 48 which gives for a product 1152	79:4
Numbers	Questions about fractions expressed as per cent	349:3
Oil	Number of gallons left in barrel	267:3
Oil	Number of barrels to hold 756 gallons of oil	320:8
Oil	Amount of oil left in can	328:13
Oil	Cost of three quarts of motor oil	366:8
Paint	Number of gallons of paint used	119:1
Painter	Total number of hours painter worked	120:5
Painting	Make out and receipt bill for work and cost of paint	339:11
Paper	One boy's share of cost of paper in school for one month	226:1
Paper	Number of packages of paper used in school year	82:14
Paper	Number of strips of paper that could be cut from roll	222:5
Papers	Gain selling 72 papers	269:1
Papers	Amount of papers sold to make 72¢	269:2
Papers	Part of papers newsboy sold	445:31
Papers	Average number of paper sold eachday for a week by Joe	84:1
Papers	Number of papers sold to make 60¢	170:5
Paper Plates	Number of dozen plates to buy for children	60:2
Party	Amount Margaret and Helen and three Bassett girls must pay for party	55:10
Pavement	Number of square feet in pavement	139:5
Pavement	Cost of 836 miles of pavement	302:8

Subject Matter	Situation	Index
Pencils	Number of boxes of pencils ordered	135:4
Pencils	Cost of twelve pencils	176:3
Pencils	Cost of 4-6-12 pencils	176:4
Pencils	Number of pencils bought for 25¢	177:18
Pencils	Cost of one pencil	219:8
Pencil Box	Per cent of discount on school box	438:11
Pencils	Cost of John's pencils per month	226:2
People	Number of people left on train after two stops	78:2
People	Number of people served from seven pies	174:2
Picture	Amount each of 86 pupils paid for picture costing $42.14	79:5
Picture Frames	Amount of molding for square picture frame	387:12
Picture Molding	Cost of picture molding	154:6
Plaster	Thickness of two coats of plaster	120:3
Plasterer	Cost of plastering kitchen	120:7
Problems	Make up problems from given statements	31:11
Problems	Part of examination did he miss	272:2
Problems	Per cent of problems did Mary solve correctly	402:1
Problems	Per cent of problems are correct	415:15
Problems	Have committee bring to class some problems in percentage	415:19
Problems	Find two instances of a house or lot that has been sold in your community at a profit or loss	423:10
Problems	Data given a pupil to make a problem and then to solve it	246:1-8

Subject Matter	Situation	Index
Problems	Make up a problem about inches, in which the remainder can be divided	52:5
Problems	Make up and solve a subtraction problem about the distance between cities	30:9
Problems	Make up and solve a subtraction problem about the height of two mountains	30:10
Problems	Make up and solve a subtraction problem about the length of two rivers	30:8
Problems	Make up a problem dividing a class of boys and girls. Can the remainder in such a problem be divided	52:4
Pupils	Amount of increase in pupils in one year	26:1
Pupils	Difference in number of pupils in two towns	26:2
Pupils	Number of pupils absent on rainy day	26:3
Pupils	Draw graph to show number of pupils in the sixth grades of high school	398:10
Pupils	Number of boys in school	33:7
Pupils	Enrollment in four grades in school	34:5
Pupils	Cost per pupil of 505 in school	75:5
Pupils	What section of school is girls	124:2
Pupils	What part of class were girls	183:5
Pupils	Number of children present in school	277:7
Pupils	Number of more girls than boys in a class	279:15
Pupils	Number of pupils under twelve years of age	356:8
Pupils	Number of pupils who have money in school bank	362:2
Pupils	What per cent of pupils are girls	411:6
Pupils	What per cent of class are present	414:7

Subject Matter	Situation	Index
Pupils	Number of increase in school this year. Increase is what per cent of last year's attendance	414:9
Pupils	What per cent of pupils were absent	414:8
Pupils	Per cent of pupils there are in sixth grade	415:14
Radio	Length of time Phil's father takes to save money for radio	223:6
Radio	Number of months Mr. Forbes is paying for radio	224:10
Radio	Number of weeks it takes a man to pay for radio	303:11
Radio	Cost	225:8
Radio	Amount of five equal payments on radio Mr. Monroe makes	266:4
Radio	Amount Jack must earn to pay for radio	277:2
Radio	Amount saved by buying radio for cash	353:8
Radio	Selling price	422:6
Radio	Per cent of gain he made on total cost	426:18
Radio	Amount of discount, per cent of discount	431:5
Radio	Number of weeks it will take Arthur's father to pay for radio	433:6
Radio	Per cent of profit on radio	438:16
Radio	Per cent of profit on radio	439:3
Rainfall	Total rainfall in three sping months	199:4
Rainfall	Average amount rainfall on each day	210:3
Rainfall	Difference in amount of rainfall in two months	222:7
Rainfall	Amount of rain that fell each month on average	302:5

Subject Matter	Situation	Index
Rainfall	Average rainfall per month	323:9
Receipt	Write receipt for first payment on radio outfit	345:4
Receipt	Write receipt for one day's wages	345:5
Receipt	Write receipt for work	345:3
Receipt	Write receipt for newspaper	344:2
Receipt	Write receipt for second-hand bicycle	344:1
Receipt	Write three receipts, making up dates names and items	345:6
Rents	Difference in rent for apartment and house	228:9
Rent	Amount less rent was in country than in city	256:4
Rent	Amount of increase per month in rent, price of rent after increase	409:7
Rents	Commission collected in rents	440:15
Rifles	Net price of rifles after discount is deducted	441:22
Rivers	Difference in length of Ohio and Missouri rivers	30:5
Road	Cost of concrete road per mile	75:7
Road	Cost of concrete road	295:7
Road	Number of miles long concrete road is	383:13
Room	Length of school room in feet	5:4
Room	Length	5:10
Room	Estimate length and width of school room in feet, then measure and estimate	137:19
Room	Perimeter of a room	386:3
Room	Perimeter of schoolroom	387:9
Room	Perimeter of Mr. Russell's living room	387:11

Subject Matter	Situation	Index
Room	Draw to scale a room	391:8
Room	Draw to scale your schoolroom	392:23
Sales	Find James' commission on sales	419:2
Sales Slips	Question about sales slips	332:1
Sales Slips	Make sales slips and find totals, items given	334:5-6
Sales Slips	Make sales slips for imaginary sales	334:7
School	Was cost (of running) in John's school more or less than average	227:8
School Supplies	John's share of expense for year	226:3
Seals	Number of Christmas seals Elizabeth sold	444:27
Seats	Number of people entire train seats	78:1
Ship	Number of miles per hour ship is going	294:1
Ship	Difference in speed of ship and auto	294:2
Ship	Number of hours it takes ship to cross Atlantic	134:7
Sidewalk	Number of square feet in sidewalk. Cost of sidewalk	139:6
Sidewalk	Cost of laying a sidewalk	386:20
Sidewalk	Cost of laying a sidewalk	398:6
Soap	Weight of soap in box	46:1
Soap	Weight of soap in box	159:9
Stamps	Cost	44:3
Statement	Receipt statement	341:2
Statement	Check statement and find correct balance	342:6
Statements	Statements from advertisements to explain	349:5
Statements	Explain meaning of statements about per cents	404:29-30

Subject Matter	Situation	Index
Statements	Explain meaning of statements	405:31-33
Statements	Bring to class some monthly statements	341:3
Supplies	Cost of supplies per pupil per month	227:4
Tablets	Difference in price of tablets	447:54
Table Cover	Draw to scale a square table cover	391:3
Table Cover	Draw to scale a table cover	392:19
Tank	Cubic feet of water for swimming tabk	389:9
Tennis Court	Draw to scale a tennis court	392:17
Tennis Racket	Selling price of tennis racket	423:3
Tennis Racket	Net price of tennis rackets	430:23
Tennis Racket	Per cent of discount on tennis racket	431:1
Tennis ra Racket	Selling price of tennis racket	437:4
Rennis Racket	Selling price of tennis racket, after discount is deducted	442:3
Test	Number of minutes Francis finished before end of test	122:12
Test	Completion test on all covered so far	363:1-17
Test	Complete test on all covered so far	364:18-23
Test	Review questions of tables of measure	365:1-7
Test	Review questions of tables of measure	366:8-10
Tickets	Price of one street car ticket bought by Jane	48:3
Tickets	Number of tickets for play sold	55:8
Tickets	Cost of 2 tickets for Bob and his father from Cleveland to Chicago	78:8

Subject Matter	Situation	Index
Tickets	Change left from a dollar	87:1
Tickets	Amount taken in at box office of Century Theater for all tickets	89:9
Tickets	Fare for a trip of 100 miles	302:4
Ticket	Number of miles $10.00 will pay for railroad fare	302:6
Tickets	Fraction of his 25¢ does Paul save	277:3
Tickets	Per cent does Hugh save by buying car tickets	415:18
Ticket	Per cent of increase in trolly car fare	443:14
Tiles	Number of four inch tiles needed in 12 foot row	136:6
Timber		
Boards	Cost of boards for bookcase	136:7
Boards	Number of pieces cut from board	165:13
Boards	Number of pieces of board	371:28
Boards	Length of board Michael needs in bookshelf	337:1
Time	Number of days in 336 hours	60:3
Time	Number of days Miss Benton is off duty	86:7
Time	Number of hours Dick studied in one week	122:10
Time	Amount of time left to visit the museum	124:3
Time	Part of day left after studying	124:6
Time	Total number of days in three spring months, in three summer minths, in three fall months	133:3
Time	Length of time Norah worked	133:4
Time	Number of hours Robert spends in school each day	133:5
Time	Number of years church has been built	134:10
Time	Number of hours Judith practised in the past six days	134:8

Subject Matter	Situation	Index
Time	Number of days older John is than Mary	134:12
Time	Number of days between two dates	134:13
Time	Number of days between two dates	134:14
Time	Number of days between two dates	134:15
Time	Number of hours Peggy slept	134:16
Time	Number of hours Ned worked each day	134:17
Time	Which is faster of two trains	134:18
Time	Number of hours Herbert worked in one day. Amount earned	141:9
Time	Find number of minutes Dorothy helps Mother. Reduce to hours	143:9
Time	Distance car went in two and one third hours	158:2
Time	Number of hours Alice practices in twelve days	159:8
Time	Number of periods of one half hour do children have in school	165:15
Time	Difference in time Mary practised in two days	174:13
Time	Length of time to travel thirty miles	183:10
Time	Number of groups to play tennis in two and one half hours	183:11
Time	Number of hours Helen practised	184:8
Time	Part of hour Ethel practises each day	185:6
Time	Number of hours it takes to walk eight and three quarters miles	186:9
Time	Time it takes Jim to walk seven and a quarter miles	205:2
Time	Amount improvement in Sam's running record in one year	208:4
Time	Number of days Dick must work to buy thirty-five chickens	250:8

Subject Matter	Situation	Index
Time	Finding year school building was erected by reading Roman figures on cornerstone	266:6
Time	Number of days she must practice to equal four hours	269:3
Time	Number of minutes .65 is of an hour	323:8
Time	Time when 50% of morning session of school has passed	357:10
Time	Number of hours Eleanor practised in six days	367:14
Time	Number of weeks in leap year	368:19
Time	Amount of time Richard worked	373:2
Time	Length of time Katherine played out doors	375:2
Time	Number of hours Mary practised in two weeks	373:2
Time	Time from one date to another	375:3
Time	Time it takes train to make trip	376:12
Time	Time between sunrise and sunset	379:13
Time	Time Mary must still practice on Saturday	376:14
Time	Correct time at noon on clock ten minutes fast	376:15
Time	Time a train is late	376:16
Time	Length of school day	377:1
Time	Time Dorothy must leave home and yet be on time for school	377:3
Time	Length of time Dick went walking	377:4
Time	Time from George Washington's birth to present date being given	377:26
Time	Number of hours between sunrise and sun set	378:12
Time	Number of weeks in eight days	379:6

Subject Matter	Situation	Index
Time	Time from Perry's discovery of North Pole to present time	379:15
Time	Time before you are twenty one years old, and date of twenty first birthday	379:16
Time	Time Fred spends in school is what part of time he is awake	380:17
Time	Number of seconds watch lost per day	381:21
Time	Number of minutes standard test must be completed in	398:11
Time	Time Jean practices piano each day	399:20
Time	Number of minutes watch gains in a week	399:24
Time	Number of minutes and days boy wasted	400:28
Time	Number of hours of daylight on June 22	401:36
Time	Time Mr. Wellès start should be made in order to reach city at one twenty o'clock	401:39
Time	Percent of school time does boy waste	415:16
Time	Amount of per cent of school day used for arithmetic	440:19
Time	Number of minutes it takes to walk from home to station	447:56
Train	Time it takes train to travel one thousand miles	74:10
Train	Average miles per hour from Chicago to Denver	78:5
Train	Average speed of train going from Chicago to New Orleans	78:6
Train	Average speed of train going from Chicago to Los Angeles	78:7
Train	Average speed of train per hour	119:11
Train	How late was Richard's train	133:6
Train	Make up problem about two trains	134:19

Subject Matter	Situation	Index
Train	Number of miles a traingoes in one hour	209:14
Train	Average rate per hour of train	303:6
Train	Time of train trips from time table	378:7
Train	Time train arrives	378:9
Train	Number of minutes train was late	380:10
Train	Time train was late	381:5
Train	Number of miles train goes per hour on average	381:20
Train	Time train was late	433:5
Train	Number of miles per hour train goes on the average	446:48
Trip	Average cost of trip per day for David and father	65:6
Trip	Average cost of trip per person for five people	65:7
Trip	Average cost of trip	65:8
Vacuum Cleaner	Amount of cash Mrs. Boyd paid for cleaner	160:1
Varnish	Number of gallons of varnish Ann's father needs for floor	399:21
Victrola	Amount of payment on victrola	249:1
Votes	Part of votes Mary received. Part of votes Robert received	278:10
Walk	Cost of laying a concrete walk	139:9
Walk	Area of a walk	385:3
Walk	Cost of concrete walk	385:5
Walk	Cost of laying a concrete walk	446:42
Walk	Number of sections in a concrete walk 130 inches long	401:35
Watch	Cost of wrist-watcj	358:9

Subject Matter	Situation	Index
Watch	Net price of boy's watch	429:12
Water	Number of pounds of water in a tank containing one thousand and forty-five gallons	302:9
Water	Weight of nine hundred gallons of water in a tank	322:11
Weight	Difference in weight between Jane and her brother	5:3
Weight	Number of pounds in four thousand eight hundred ounces	80:10
Weight	Number of pounds in five gallons of water	82:15
Weight	Average weights of players on football team	85:11
Weight	Number of pounds Helen gained in a year	121:1
Weight	Amount Polly should weigh	121:7
Weight	Number of pounds Donald is underweight	131:1
Weight	Average gain of Janet's pig in one day	133:1
Weight	Find baby's weight at end of four weeks	143:11
Weight	Find cost of freight on goods	143:16
Weights	Average of ten weights	144:10
Weight	Number of pounds Henry has gained	159:7
Weight	Find difference in weight of two silver half dollars and a one dollar	209:15
Weight	Difference in weight of milk two cows, Daisy and Flossie, for one week	209:16
Weight	Difference in weight of five gallons of milk and five gallons of cream	209:17
Weight	Average number of pounds Jack gained in one year	225:2
Weight	Number of pounds per month Howard increased weight	322:1
Weight	Average of five weights	347:1

Subject Matter	Situations	Index
Weight	Average weight of players on basket ball team	359:9
Weight	Amount baby had gained in three months	377:2
Weight	Marion's average gain per month	398:7
Wheel	Number of revolutions of bicycle wheel	383:16
Window	Draw to scale a window	391:2
Window	Area	385:13
Window	Perimeter	386:2
Wire	Number of feet in 100 yards-cost of wire	136:1
Wire	Number of feet and cost of wire cable	136:13
Wire	Find length of wire	136:14
Wire	Cost	137:16
Wire	Cost of fifty feet of wire	168:8
Wire	Number of pieces a yard of wire can be cut into	301:2
Wire	Amount of wire Edward needs for his ratio	373:1
Wire	Length of roll	382:10
Wire	Number of feet of wire needed for fence	387:8
Wood	Number of tent pegs from wood	398:4
Wood	Number of garden markers that can be cut	136:5
Words	Number of words learned to spell in one year	5:8
Words	What part of spelling test did Jane have wrong	180:19
Words	What part of words Helen got wrong	182:4 272:1
Words	Number of words David spelled correctly	355:2

Subject Matter	Situation	Index
Words	Number of words Herbert spelled correctly	356:1
Words	Number of words spelled correctly by each of four pupils	356:4
Words	Number of words Jack missed	356:7
Words	Part of words Joan spelled correctly	404:1
Words	Number of words Katherine missed, per cent being given	408:1
Words	Number of words Edward had wrong. Number right. Percentage being given	408:3
Words	Per cent of words has boy spelled correctly	410:3
Words	Find per cent of words, Robert, Sally, and Nora missed, fraction being given	410:4
Words	Number of words spelled correctly by Eleanor, George, Dot, and Margaret, per cent given	414:2
Words	Per cent of words did Helen get right	414:5
Words	Per cent of words did Mildred spell correctly	438:13
Words	Per cent of words did Margaret spell correctly	443:11
Words	Number of words Joe, Herbert, Marion and Tom got right, per cent being given	408:3
	Number of Arithmetic Problems - Grand Total	1,482

TABLE LIII

FREQUENCY OF OCCURRENCE OF SITUATIONS BY SUBJECT MATTER

IN THE NEW DAY ARITHMETIC (INTERMEDIATE)- 1930

Table

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling	Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Ages		4																2				
Airplane																				4		
Album																			1			
Animals																						
Calves																						
Dog														1								
Fish																		2				
Hens																						
Pigs																						
Auto														2	2					3		
Ball															2			1				
Balloon																						
Baseballs			1											2	3							
Bats																			2			
Bits																						
Mitts															1				1			
Throws																		1				
Bicycle														1	2							
Blackboard																					1	
Boat																						
Books			1			1					3				3	3			1			
Box																	6	1				
Bracelet																						
Buildings																						
Hall																					1	
House									1							2						
Store															1							
Bulbs															1							
Cellar															1		1					
Totals		4	2			1			1		3			6	6	5	7	7	5	7	2	

Situations by Subject Matter

(Intermediate) - 1930

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
																										6
			1										2							4						11
																										1
		1																								1
																										1
																							1			3
																						1				1
																1										1
									1	1			4			2										15
																										3
													1													1
																										6
																										2
									1																	1
																										2
						1																				2
													1			4										8
																										1
																	1									1
																										12
																										7
																1										1
																										1
					1											2				1						7
																										1
																										1
																										2
		1	1		1	1			2	1			8			10	1			5		1	1			99

Table

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling	Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Cloth	1	1			6									11							
Braid	1																				
Calico														1							
Cambric				1																	
Carpet	1																				
Cord														1							
Curtains	2																				
Goods													1	9	2						
Lace	1													1							
Linen	2																				
Muslin		1												1							
Napkins								1													
Ribbon	2	2		1										7							
Silk	1													1							
Clothing										1				10							
Bathrobe														1							
Bathing Suit						1															
Belt														1							
Dresses																		1			
Gloves														1				2			
Handkerchiefs														3							
Hat																		1			
Overcoat														2							
Rubber Boots														1							
Shoes													1								
Skates														4				1			
Suit														2			1				
Sweater														2							
Coal	4									1				15	1						
Cubes																					
Totals	15	4		2	6	1		1		2			2	74	3		1	5			

Situations by Subject Matter
(Intermediate) - 1930

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
						1										1								1		22
																										1
																										1
																										1
									2																	3
																										1
									1																	3
							1									2										15
																										2
																										2
																										2
									2																	3
									5																	17
							1																			3
																										11
																										1
																										1
																										1
									1																	2
		1														1										5
																										3
	2																									3
	2	1																								5
																										1
																1										2
							1																			6
																1										4
																1										3
																										21
									1																	1
	4	2				1	3		12							7								1		146

Table
Frequency of Occurrence of
In The New Day Arithmetic

Subject Matter	Situation Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Distance	23			7					6							18				
Door								1												
Electricity													1							
Examples																1				
Fence	1												1							
Fishline																				
Floor								3					2						1	
Food													3							
Beverages																				
Coffee													3							
Grapejuice	1																			
Lemonade	3						1													
Milk	6	4					1						9							
Bread	4												3							
Butter	2								1		1									
Candy	1	3		1									8			1	1			
Chocolates													2							
Fudge																				
Cheese													1							
Cornflakes																				
Cream													1							
Eggs				1					1				6							
Fruit																				
Apples	3	1	1								1		3	1		1				
Bananas													2							
Berries	1	1							1		1		3	1					1	
Cherries	1				1								1			2				
Grapefruit		1											5							
Lemons			2										4							
Totals	46	10	3	9	1		2	4	9		3		58	2		23	1		2	

Situations by Subject Matter 489

(Intermediate) - 1930

-Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
								2					3					9		3	31					102
1						1																				3
																										1
	1								5	1																8
																										2
						2																				2
1																										7
																1										4
																										3
																										1
																8										12
	1	1							1														1			24
									1																	8
																										4
		1							4																	20
									1																	3
									3																	3
																										1
																				1						1
																1										2
	1								5	3						1	1						1			20
		1																								1
		1														3							1			16
																										2
		1							1							5										16
										1						1										7
																										6
																1										7
2	3	5				3		2	21	5			3			21	1	9		4	31		3			286

Table

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling	Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Food																					
Fruit																					
Melons		1												2	1						
Oranges		1		1										7			1				
Peaches	1													1			1				
Pineapple	1													1							
Raisins	1																				
Grains																					
Cornmeal		1																			
Feed														2							
Flour					4									3							
Oats														2							
Groceries			3							1	1			22							
Ice	1													2							
Ice Cream					2		1							2							
Ingredients	3																				
Jelly																					
Lunch														2							
Meat		1												7							
Beef		1												8			1				
Chickens	1			1			3							1							
Ham														3							
Pork														1							
Molasses				1																	
Nuts																	1				
Peanuts																					
Pastry																					
Cakes																	1				
Cookies		1																			
Crullers				1																	
Pie														1							
Totals	8	6	3	4	6		4			1	1			67	1		5				

Situations by Subject Matter 491
(Intermediate) - 1930

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
																										4
		1							1	1																13
																2										5
																										2
																										1
																										1
																										2
									1														2			10
																				1						3
																							2			29
						1																				4
		1							2																	8
																										3
									1																	1
																										2
										1																9
																							1			11
																2										8
																										3
																										1
																										1
																1										2
																1										1
									1							1										3
																										1
																										1
	2																									3
	2	2					1		6	2						7			1			5				132

Table

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Food																					
Pastry																					
Rolls														2							
Popcorn														1							
Receipt	2																				
Sugar	2	1	1			1								9			1				
Vegetables															1						
Beans																					
Corn	2	1												1							
Lettuce																					
Onions															1						
Potatoes														8			1				
Teas																					
Freight														10							
Furniture																					
Bookcase													1								
Hat Rack																				1	
Mirror																				1	
Table									1												
Rug									3					2						2	
Games																					
Gas														3							
Gasoline	4	1		1										2					2		
Glass									1												
Garage							1														
Grades										4											
Granite																1					
Graph																				1	
Gravel	1																				
Guns														1							
Totals	11	3	1	1	1	1		5	4			1		39	2	1	2		2	5	

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
																										2
																										1
								1																	2	5
	1								1																	17
																1										2
																2										2
									1																	5
																1										1
																										1
		1							1			1										6				18
		1														2										3
																										10
																										1
																										1
																										1
																										1
						1																				8
7									5	8																20
																										3
																										10
1																										2
																										1
																										4
																										1
												1														2
																										1
																										1
8	1	2				1		1	8	8		2				6						6		2		124

Table
Frequency of Occurrence of
In The New Day Arithmetic

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Hay																				
Hardware													2							
Height	8								2								13			
Jumps									1								1			
Land	4			1			2	1					4						3	
Field																				
Garden								3					1			2			1	
Lime													1							
Line																			4	
Locomotive																				
Lumber													11							
Boards													1							
Molding	3												1							
Poles																				
Posts																				
Mandolin																				
Magazines														1						
Measures								1										2		
Marble															1					
Money	17		1	8	4	41								2		2				
Allowance	4			1	2															
Bills	2																			
Budget	2																			
Cash Acc't	6																			
Checks																				
Earnings	27			2	6				3											
Expenses	1																			
Income						5														
Totals	74		1	12	12	46	2	5	6				21	3	1	4	14	2	8	

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Lake Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
																							2			2
																										2
																										23
						2																				4
	1																					1		1		18
						1																				1
						1										1										9
									1																	2
									1																	5
																							1			1
																										11
						2			2																	5
																										4
									1																	1
									3																	3
										1																1
		1														1										3
	1											1			7											12
																										1
1	1	1			18		1		2	2										2		1				104
																										7
																										2
								1				3														6
								1																		7
												1													1	2
	1																1			7						47
																	1									2
1	3									3																11
1	7	2			18	6	1	2	10	6		5			7	2	2			9		2	3	1	1	296

Table

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Money																					
Salary	6						3														
Savings	14									1											
Wages	7																				
Motorboat																					
Nails	1																				
Numbers																					
Oil					2									1							
Paint	1													1							
Paper																					
Papers								4													
Paper Plates			1																		
Party														1							
Pavement									1					1							
Pencils			2										1	4							/
Pencil Box																		1			
People																					
Children										3							1				
Inhabitants																					
Pupils														1			2			1	
Picture																					
Plaster														1							
Problems																					
Radio							1							3				1			
Rainfall										3							1				
Receipt																					
Rent															1		2				
Totals	29	3		2		4	4	1	7				1	13	1		6	2		1	

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
																										9
										1										1						17
										1																8
																				1						1
		1																								2
												2														2
									1																	4
																										2
									2								1									3
		5																								9
																										1
																										1
																										2
																										7
																										1
									2																	2
	1								6																	11
									2	1																3
	2	2							6	4																18
																		1								1
																								1		2
	1							16		2																19
										3						1				4						13
																										4
																									6	6
		1																								4
	4	9						16	19	12		2				1	1	1		6				1	6	152

Table

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations	Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling	Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Rifles																						
Rivers																		1				
Road															2							
Room																				3	2	
Sales																1						
Sales Ships																						
School															1							
School Supplies											1				1							
Seals								1														
Seats																						
Ship																		1				
Sidewalk									1						2							
Soap																						
Stamps															1							
Statement		2																				
Tablets																		1				
Tablecover																					2	
Tennis court																					1	
Tennis racket																			1			
Test																						
Tickets				1				2							3					1		
Tiles						1																
Time		37			1													10				
Train																						
Trip											3											
Vacuum Cleaner															1							
Varnish						1																
Victrola															1							
Totals		39		1	1	2		3	1		4				12	1		13	1	4	5	

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Total
																1										1
																										1
						1																				3
1						2																				8
																										1
												1													3	4
																	1									1
																										3
									1																	1
													1							1						1
																										3
																							2			2
																										1
								1				6														9
																										1
																										2
																										1
																4										5
												33								1						34
	1									2																10
																										1
	1								2	2		4			3						6					66
								1					8							7						16
																										3
																										1
																										1
																										1
1	2					3		2	3	4		44	9		3	5	1			9	6		2		3	184

I

Table

500

Frequency of Occurrence of

In The New Day Arithmetic

Subject Matter	Situations Amount	Amount Bought	Amount of Change	Amount Left	Amount Needed	Amount Saved	Amount Sold	Area	Average	Average Cost	Barter	Bought	Buying & Selling Cost	Commission	Cubic Contents	Difference	Discount	Distance	Draw	Duty
Votes																				
Walk								1					3							
Watch													2							
Water	1																			
Weight	4								4				1			4				
Wheel																				
Window								1										1	1	
Wire				2									4							
Words																				
Totals	5			2				2	4				10			4		1	1	

Situations by Subject Matter 501
(Intermediate) - 1930

Estimate	Fraction	Gain	Height or Depth	Insurance	Interest	Length	Loss	Make Problem	Number	Percent	Present Worth	Questions	Rate	Ratio	Reduce	Selling Price	Shares	Sum	Tax	Time	Travelled	Value	Weight	Width	Write	Totals
	1																									1
									1																	5
																										2
																							2			3
		7													1											21
																				1						1
																										3
						2			1																	9
	4								9	5																18
	5	7				2			11	5					1					1			2			63
																				GRAND TOTAL						1,482

Table LIV

This is a Summary of Table LIII According to Specific Situations

New Day Arithmetic - Intermediate Book - 1930

Amount Situations

	Totals
Amount or Quantity	231
Amount left	32
Average	30
Difference	65
Fraction	36
Number	92
Shares	6
Sum	10
Grand Total	502

Buying Situations

	Totals
Amount bought	28
Amount of Change	9
Cost	310
Grand Total	347

Buying & Selling Situations

	Totals
Barter	4
Bought and Sold	10
Commission	18
Discount	28
Grand Total	60

Time Situations

	Totals
Time	35
Grand Total	35

Measuring Situations

	Totals
Area	20
Cubic Contents	9
Distance	16
Height or Depth	1
Length	17
Rate	20
Reduce	11
Traveled	37
Weight	22
Width	3
Grand Total	156

Money Situations Not Buying or Selling

	Totals
Average Cost	10
Amount Needed	24
Amount Saved	58
Gain	29
Interest	19
Loss	5
Per Cent	43
Value	3
Grand Total	191

Judgment Situations

	Totals
Draw	24
Estimate	5
Make Up Problems	23
Write	12
Questions	53
Grand Total	117

Selling Situations

	Totals
Amount Sold	15
Selling Price	59
Grand Total	74

Table LV

Showing the Number of Places in Given Figures
In Problems as Stated but not Solved
In the New Day Arithmetic - Intermediate Book - 1930

Number of Places	Frequency	Percentage
0 Places	43	2.8
1 Place	218	14.5
2 Places	632	42.5
3 Places	357	24.0
4 Places	195	13.1
5 Places	32	2.4
6 Places	4	.2
7 Places	1	.06
Grand Total	1,482	99.56

Table LVI

Showing the Number of Places in Decimals
Occurring in the Problems as Stated but not Solved
In the New Day Arithmetic - Intermediate Book - 1930

Decimal Places	Frequency	Percentage
1 Place	116	16.3
2 Places	594	81.9
3 Places	2	.4
4 Places	1	.2
Total	713	98.8

Table LVII

Showing the Total Number of Fractions
Occurring in the Problems as Stated but not Solved
In the New Day Arithmetic - Intermediate Book - 1930

Fraction	Frequency	Percentage
1/2	146	31.8
1/3	39	8.5
2/3	25	5.4
1/4	64	13.9
3/4	75	16.3
1/5	11	2.4
3/5	6	1.3
2/5	4	.8
4/5	5	1.0
1/6	9	1.9
5/6	4	.8
1/8	2	.4
3/8	15	3.2
5/8	13	2.8
7/8	14	3.0
4/9	1	.2
1/10	3	.6
3/10	3	.6
1/12	1	.2
7/12	1	.2
2/15	1	.2
1/16	1	.2
3/16	1	.2
7/16	1	.2
9/16	1	.2
11/16	1	.2
13/16	1	.2
5/16	2	.4
1/20	1	.2
3/20	2	.4
7/20	1	.2
9/20	2	.4
1/100	2	.4
Grand Total	458	98.7

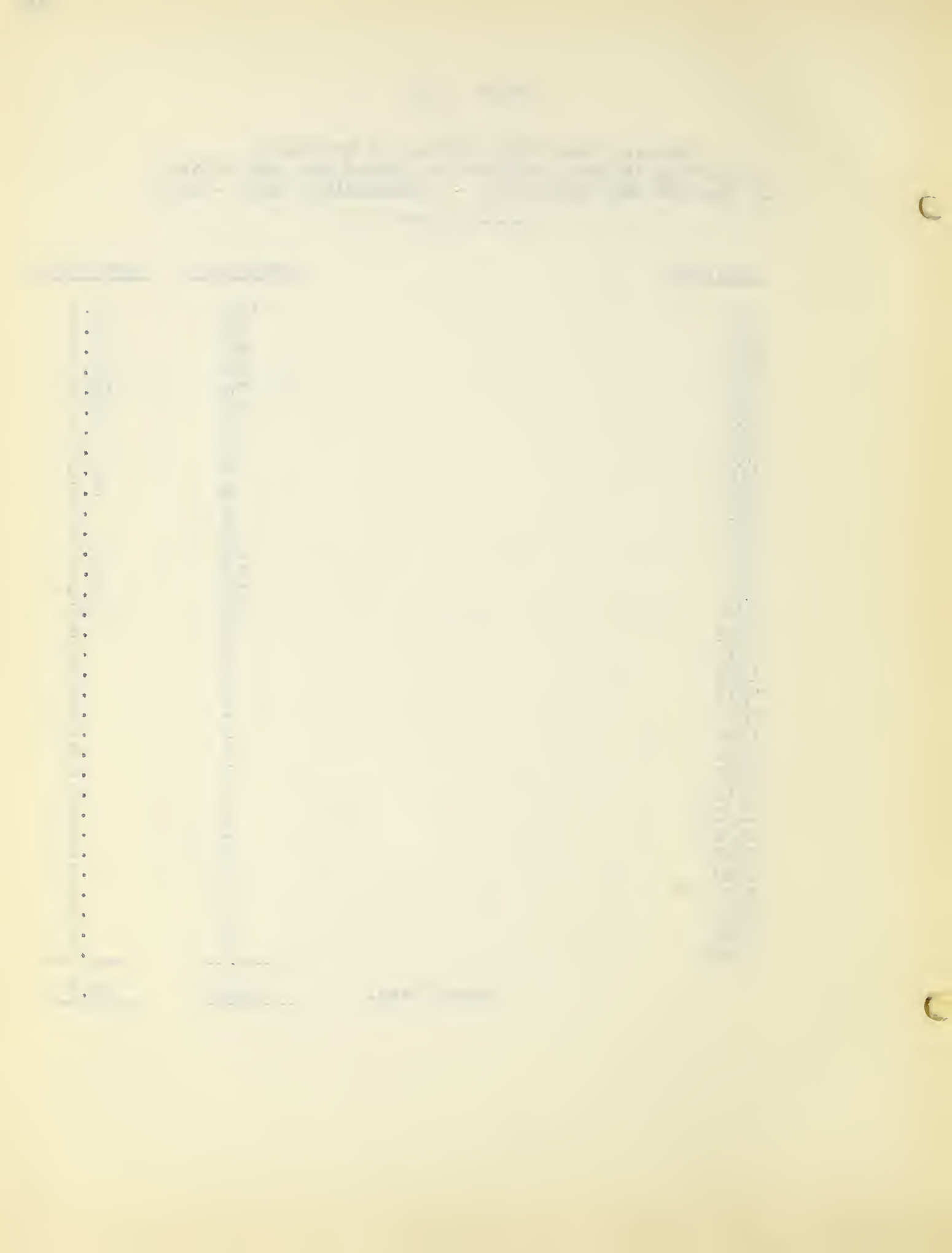

Table LVIII

Number Problems Distributed on the Basis of the Processes Used in the New Day Arithmetic - Intermediate Book - 1930

Processes	Frequency	Percentage
Addition	139	9.3
Subtraction	146	9.8
Multiplication	455	31.0
Division	325	21.2
Addition, Sibtraction	67	4.5
Addition, Multiplication	92	6.2
Addition, Division	44	2.9
Addition, Subtraction, Multiplication	5	.3
Addition, Multiplication, Division	3	.2
Subtractiob, Multiplication	104	7.0
Addition, Multiplication, Division	6	.4
Multiplication, Division	35	2.3
Subtraction, Division	61	4.1
Total	1,482	99.2

Table LIX

Problems Already Solved In the New Day Arithmetic - Intermediate Book - 1930

Number of Problems Solved	90

Table LX

Analysis of Pages in the New Day Arithmetic
Intermediate Book, 1930

	Pages Numbered	Square Inches	Pages
Introduction			
Title Page	I		
Name of Book		3.	.13
Author		1.	.05
Publisher		.25	.02
Copyright		.12	.01
Preface	III-V	12.42	.57
Table of Contents	VI-XI	27.	1.22
Arithmetic Text	1-447	8,394.	407.00
Tables	448	22.	1.
Index	449-452	88.	4.
Blank Pages			38.
			452.00

Analysis of Pages in the New Day Arithmetic
Intermediate Book
Already Included in Previous Table

	Pages
Tables Arithmetic	1.37
Illustrations	22.5

CHAPTER VII

THE TEXT BOOKS

CHAPTER VII

Discussion of the Text Books

Nicolas Pike, A. M., a member of the American Academy of Arts and Sciences wrote "A New and Complete System of Arithmetick," which was published by Thomas and Andrews of Boston in 1808. He had been a teacher of a grammar school in Newburyport, Massachusetts, in 1786, a time when arithmetic was considered a most difficult subject and one which few teachers could teach. In fact a reputation as an "arithmeticer" constituted an open door to teaching preferment.

On March 8, 1786, an advertisement appeared in a Newburyport newspaper stating that proposals were thereby made for publishing a complete system of arithmetic of which the public could be assured both the work and execution would be strictly American, and subscriptions for this were solicited by Nicolas Pike. This advertisement was evidently well received because the first edition was printed that same year.

Soon a printed copy of this arithmetic was sent to George Washington, then president of the United States, who acknowledged it with thanks. He said,

> "I hope and trust that the work will ultimately prove not less profitable than reputable to yourself. It seems to have been conceded on all hands

> that such a system was much wanted. Its merits being established by the approbation of competent judges, I flatter myself that the idea of its being an American production and the first of the kind which has appeared, will induce every patriotic and liberal character to give it all the patronage in his power. In all events you may rest assured that as no person takes more interest in the encouragement of American genius, so no one will be more highly gratified with the success of your ingenious, arduous, and useful undertaking than he who has the pleasure to subscribe himself with esteem and regard,
>
> Sir, your most obedient and very humble servant.
>
> G. Washington."

The second edition was printed in 1795, and in 1808 the third which was revised by Nathaniel Lord as Nicolas Pike said he was too old to do it.

It was written because Nicolas Pike realized that "the books then in use were generally deficient in the illustration and application of the rules of arithmetic, and as the United States was now an independent nation it was judged that a System might be calculated more suitable to our meridian than those heretofore published. He arranged the work in such order as appeared to be the most regular and natural though the student was not obliged to pay a strict adherence to it, but might pass from one rule to another at his inclination or opportunity."

Pike's text is an elaborate treatise to be used by students at least twelve years of age. From the involved, complex character of the rules and problems it seems that

it would be impossible for younger children to do much with it and theoretical arithmetic was recognized in the definitions of arithmetic. Throughout the book there are many footnotes demonstrating the operations with considerable space given to the demonstration of the rules which were usually explanations of the application of a rule to a particular problem.

At that time arithmetic was taught for its disciplinary function, for the science of arithmetic consisted mainly of rules and methods of operations without presenting the reasons for them.

Children had to learn tables not only of federal money, English money, pence, avoirdupois, troy and apothevaries weights, land measure, long measure, cloth measure, time, solid and dry measure, but separate measures for beer or ale and wine. A barrel of beer or ale differed in size from a barrel of wine, and linear measures were varied. The pupils were expected to know that the English ell was 45 inches, the Flemish ell 27 inches, the French ell 54 inches, and the Scotch ell 37.2 inches. Many of these old weights and measures have become obsolete so that they do do not concern the public, and the tendency today as shown in the New Day Series is to use tables of measures for reference purposes only so that now denominate numbers are not a severe strain on the memory. Mensuration is no longer of such practical importance as it was in the old days for then people used to do things for themselves which are now done

by professionals so this change is reflected in school training.

Various topics as alligation, annuities, barter, conjoined proportion, duodecimals, fellowship, equation of payments, federal money, involution, evolution, longitude and time, position, rule of three, tare and trett, compound addition, subtraction, multiplication and division, arithmetical and geometrical progression, square and cube root have been omitted in the recent text books for we believe that problems should deal with situations that are within the child's experiences.

Pike made much use of the Rule of Three which then was often spoken of as "The Golden Rule of Arithmetic," "for on a proper application of the rule the whole business of arithmetic as well as every mathematical inquiry depends. The rule itself is founded on this obvious principle that the magnitude or quantity of any effect varies constantly in proportion to the varying part of the cause."

Some of the problems under the rule were of the following types.

1. If 6 pounds of sugar cost (9s - D150C) what will 30 pounds cost at the same rate?

2. If 6 men build a wall 20 feet long, 6 feet high and 4 feet thick, in 16 days, in what time will 24 men build one 200 feet long, 8 feet high and 6 feet thick?

3. A has $7\frac{1}{2}$ hundredweight of sugar at 12 cents per pound for which B gave him $12\frac{1}{2}$ hundredweight of flour. What was the flour rated at per pound?

Other interesting problems in his book are:

1. An ignorant sop wanting to purchase an elegant house, a facetious gentlement told him he had one which he would sell him on these moderate terms, viz., that he should give him a cent for the first door, 2 cents for the second, 4 cents for the third, and so on doubling at every door, which were in all 36; "It is a bargain," cried the simpleton, "and here is a guinea to bind it." Pray what did the house cost him?

$$\frac{2^{36} - 1 \times 1}{2-1} = 68719476735 \text{ C or D } 687194767 \text{ } 35 \text{ C}$$

2. How many changes or variations will the alphabet admit of? The answer contains 24 figures and is 620448401733239439360000.

3. How many barley corns will reach around the globe, it being 360 degrees? The answer contains 10 figures and is 4755801600.

4. Suppose your age to be 15 years, 19 days, 11 hours, 37 minutes, 45 seconds. How many seconds are there in it, allowing 365 days and 6 hours to the year? The answer is 475047465 seconds.

And here are some now contraband problems such as cannot be found in arithmetic texts after 1890.

1. In 1008 quarts of cyder how many tons?
2. In 12 pypes of wine how many pints?
3. In 36 puncheons of beer how many butts?

Pike's method seems almost entirely deductive but without doubt this text was an improvement on the ones then in use, and more adapted to the United States because of the problems dealing with Federal Money.

Some of Mr. Pike's statements are strikingly moderm, e.g., "Multiplication may be accounted the most serviceable rule in arithmetic." The large number of rules with so few problems in which to apply these rules in many cases only one, makes one wonder how practice could ever make perfect with those pupils. The solutions are given so much and in nearly every case the answers, so that one wonders how the pupil developed any initiative and self reliance. The length of the solutions to problems is marked but their involved character, of course, makes this necessary. Problems are usually called questions and when the analyses are given these are clear and satisfactory to a modern reader in the main, yet there are many problems such as now found in text books of geometry, algebra and physics, while the chronological problems seem to belong to an astronomy text.

The text book was used then as the source of all material, for texts not children were taught. Reasoning was considered as an abstract mental process and the problems required hard work for the author believed that the harder a pupil had worked for what he knew and could do, the better for him.

Pike's Arithmetick comprises 480 pages which are 8½ inches long and 4-5/8 inches in width. Supplementary to the preface is a statement to the District of Massachusetts, claiming that Thomas and Andrews had deposited

the Title of a book, the Right whereof they claim as proprietors.

This is followed by recommendations from the Presidents of Dartmouth, Yale, and Cambridge University, Benjamin West of Providence, Rhode Island, and James Bowdoin of Boston. Next is the preface to the first edition followed by a preface to this new improved third edition. There is then the table of contents and the explanation of the characters made use of in this treatise. It has thirty four pages of tables, addition, subtraction, multiplication, division, compound addition, compound subtraction, federal money, English money, pence, troy, avoirdupois, and apothecaries weights, cloth, long distance, time, motion, land or square solid, wine, ale or beer and dry measures, tables of decimals for the previous measures, tables of aliquot or even parts of money, table of roots or powers from the first power through the fifteenth power or sursolids, tables of arithmetical and geometrical progression, of single interest by decimals, finding decimal parts of a year, parts for every day, compound interest, logarrithmic tables showing the amount of one pound or one dollar, the present value, present worth, the annuity which one pound or one dollar will purchase, exchange, comparision of the American foot with the feet of other countries, conformity of the weights of the principal trading cities, perpetual almanac, reducing troy to avoir-

dupois and vice versa, nineteen epacts for the Julian and Gregorian accounts by the golden number, dominical letters for the new style according to the cycle of the sun, golden numbers from 1753 on to 4199 inclusive. It has 5.6 pages of illustrations which are figures in geometry, trigonometry, mensuration of superficies and solids.

In 1828, Warren Colburn, A.M., wrote an arithmetic book "A Sequel" which was published by Hilliard, Gray, Little and Wilkins of Boston. He had been a business man, a superintendent of a manufacturing company and a teacher in Boston. While teaching there he wrote his arithmetic texts. His first book was received with great acclaim as it was the first to bring arithmetic within the comprehension of young pupils, and it introduced objective materials. Later, he wrote "A Sequel" which was intended to be studied by the pupil after he had completed his other arithmetic book the "First Lesson." This "Sequel" was written on the plan of Pestalozzi and by the use of the Pestalozzian unit table and fraction tables he connected his work with that of Pestalozzi, the noted Swiss educator.

Colburn had the ability to break through the trammels of tradition, and he produced Arithmetic texts which revolutioned school practice as no other texts have done. For it was in the second quarter of the nineteenth century that arithmetic was accorded its place in the school as one of the traditional educational trinity.

Colburn recognized the utilitarian value of arithmetic and an equal value to the subject as a discipline of the mind. The absence of rules, the emphasis upon the mental processes allowing the pupil to do the problem in his own way at first and think his way through it, all are representative of Colburn's attitude. Thus he helped to make the pupils resourceful. He believed that when the processes of arithmetic were understood, very few topics would require rules and if the pupil was properly introduced to them he would understand them better without a rule than with one.

He omitted the rule of three for he thought that it obscured rather than illustrated the subject to which it was applied, and also omitted the rule of position for he believed that it could not be well understood without the aid of algebra, neither could powers and roots.

He thought that the teacher should find out a pupil's difficulty and try to remove it, for the difficulty initiates a reflective thought. The pupil is at first to meet a difficulty, feel a need for solving it, thus have a problem, then he will make his own hypothesis without the teacher's help. Such a method of presentation is inductive.

Colburn recognized "the value of teaching pupils to study but believed each teacher must do it in his own way, for one who succeeds in making his scholars study

will succeed in making them learn for there never has been found a royal road to learning of any kind."

The text embodied some features which were too progressive for the times, such as the departure from the traditional division of subject matter and the order of topics.

The book is $7\frac{1}{4}$ inches long by $4\frac{1}{2}$ inches wide and is similar to Pike's in that Warren Colburn had deposited the title, the right where of he claimed as author, in the District of Massachusetts followed by recommendations from the Principals of the Public Latin School and the English Classical School of Boston. Then comes the preface, table of contents, and index to particular subjects.

This Sequel consists of two parts. The first part contains examples and problems for the illustration and application of the principles; the second part, a development of the principles. When the pupil has done all the work in the first part, he should be required to recite the corresponding article in the second part by giving an account of reasoning. After the principle is well understood, the rules should be committed to memory.

This book has ten and a half pages of tables, Federal money, English money, avoirdupois, troy, apothecaries' weights, dry, ale or beer, cloth, lengths, time, square solid measures, numbers expressed by Roman letters, table of Pythagoras and one of decimals. There is only 1/10 page of illustrations, and that is a geometrical figure.

Eight and four tenths per cent of the problems are solved, leaving 91.6% to be done by the pupil. Some of the interesting problems in the Sequel are:

1. A lady being asked how much older her husband was than herself answered that she could not tell exactly, but when she was married her husband was 28-4/7 years old and she was 22-4/5. What was the difference of their ages?

2. There is a fish whose head is 16 inches long, his tail is as long as his head and half the length of his body, and his body is as long as his head and tail. What is the length of the fish?

3. A lion of bronze placed upon the basis of a fountain can spout water into the basin through his throat, his eyes, and his right foot. If he spouts through his throat only he will fill the basin in 6 hours, if through his right eye only he will fill it in two days, if through the left eye only he will fill it in 4 hours. In what time will the basin be filled if the water flows through all the apertures at once?

Benjamin Greenleaf, A. M., wrote the "National Arithmetic" and it was published in 1868 by Robert S. Davis & Company of Boston. This book was accepted as an authorized text book for the public schools of the city and county of Philadelphia and New York City.

Greenleaf's arithmetic seems to follow Pike's idea, and he may have developed a reverence for Pike from his Newburyport ancestors. He evidently believed that a pupil gained more knowledge of arithmetic from rules than from examples, and that rules improve one's reasoning powers for his text is deductive in form.

The arrangement of the book is "philosophical" as the principle is anticipated, for the pupil is never required to perform any operation until the principle on

which it is founded has first been explained. He also retains such topics as progressions, position, permutations, equation of payments, annuities, alligation, involution, evolution, exchange, arithmetical progression and geometrical progression, for he said that though some of these rules are not of much practical utility yet they improve the reasoning powers and ought not be laid aside by anyone who wishes to become a thorough arithmetician.

This third edition of the work is enriched by an appendix containing a full presentation of the metric system of weights and measures in accordance with the tables of equivalents established by Congress. The author noted that this more simple metric system would be now in common usage which shows that he failed to recognize the difficulty in getting new standards of measurement adopted, that is, he failed to guage the conservative element in human nature. Actual usage does not show any practical advantages of the metric system over customary units for after a hundred years we still have the old system with us exactly as they have in the metric countries of Europe today. Manufacturing and trade of the world are still non-metric."

This arithmetic text is 7¼ inches by 4-5/8 inches and is to be used by pupils in common schools and academies. There are 17.5 pages of tables, as addition, subtraction, multiplication, division, a miscellaneous table

embracing a variety of denominations frequently used in business and other tables similar to those in Pike's "Complete System of Arithmetick" with the addition of all the measures of length, surface, colume and weight in the metric system and a comparative table, i.e., equivalents of denominations of common weights and measures in metric denominations.

The illustrations which cover 1.7 pages consist of geometrical figures only.

Some interesting problems in Greenleaf's text are:

1. How long will it take to count 18 millions, counting at the rate of 90 a minute. The answer is 138 days, 21 hours, 20 minutes.

2. I have purchased from Mr. Hall's nursery 100 fruit trees of various kinds to be set around a circular lot of land at the distance of 1 rod from each. Having deposited them on one side of the lot, how far shall I have traveled when I have set out my last tree, provided I take only one tree at a time, and travel on the same line each way?

3. A lady wishing to purchase 10 yards of silk for a new dress, thought $1.00 per yard too high a price; she agreed however to give 1 cent for the first yard, 4 for the second, 16 for the third, and so on in a four-fold ratio. What was the cost of the dress? The answer is $3495.25.

In 1908 Samuel Hamilton, Ph. D., wrote the "Complete Arithmetic" for the sixth, seventh, and eighth grades which was published by the American Book Company of New York. He was a superintendent of schools in Allegheny County, Pa., and the author of "The Recitation."

His text is inductive in the development of all mathematical principles and deductive in their application. He aimed to give the pupil a working knowledge of business methods, especially in his treatment of banking, accounts, promissory notes, discount, exchange, stocks and bonds.

The topics in this book are a burden, real and heavy, making much more difficult an already difficult subject. One of the most noticeable changes of emphasis has been in reference to the rule of three for now it has been reduced to the inconspicuous topic of proportion. Great stress is placed upon practical measurements, including plastering, painting, roofing, flooring, papering, carpeting and areas of various figures with volumes of different solids.

Twenty-one per cent of all the problems in the text book deal with some phase of money, and twenty-one per cent are on mensuration, while in the eighth grade section five per cent of the problems deal with the metric system and eleven per cent are on agricultural problems.

This was the period where the function of the teacher was to provide situations which would exercise the pupil's mind, situations which call for the use of number and number relations.

Hamilton's "Complete Arithmetic" text is $7\frac{1}{4}$ inches by $5\frac{1}{2}$ inches. On the first page of this book are the copyright dates, followed by the preface, contents, and the subject matter, and at the end reference tables of measures and an index.

The eight and a half pages of illustrations include geometrical figures, pictures of receipts, bills, orders, ledger accounts, checks, deposit slips, notes, coupons, stock certificates and maps for longitude and time.

Four of the seven pages of tables are placed in the back of the book as reference tables, and in the text itself are the tables of liquid and dry measures, length, surface, surveyor's, volume, avoirdupois, troy, apothecaries weith and liquid, metric system measures, time, angles, United States and English money.

Among the problems are the following:

1. For a vineyard of 25 acres of grapes suffering from black rot of the fruit, how many pounds of sulphate of copper and lime are necessary, if 100 gallons of Bordeaux mixture will spray 2/3 of an acre?

2. How many shares of stock must be sold at $99\frac{1}{4}$, brokerage 1/8%, to pay a debt of $793?

3. Each slope of a roof is 40 feet by 20 feet. Find the number of slates 10 inches by 16 inches exposed 4 inchest to the weather, required for this roof, allowing nothing for breakage. Find the cost of the slates at 5.50 per square.

4. The day book shows certain sales and receipts. Make a ledger for the year, enter each item, foot and close the accounts.

5. How many steres are there in a pile of wood 2 meters high, 2 meters wide, and 6 meters long?

At this time, in 1908, the most important factor in teaching was the child and progress had been made in this direction by modern psychology. As early as 1828, Colburn

recognized that the child must be kept in the foreground of the picture for he is the center of the school's efforts, and the subject matter should be kept in a secondary place.

Samuel Hamilton allowed the pupil some freedom in his problem work as shown by these examples.

1. Find the length of your school room.
2. Draw on the board a line 2 feet long.
3. Draw a diagram, on a scale suitable to the size of your tablet, a rectangle 20 feet by 24 feet.

In this text no answers are given to any problems so the child has to work them out, and explanations and solutions are given 12 per cent of the problems.

The New Day Series of Arithmetics, Elementary and Intermediate, published in 1930 by Charles Merrill Company of New York and Chicago, are written by Durrel, Gillet, and Durell, assisted by Vera Blair. Fletcher Durell had been a teacher and head of the mathematical department in the Lawrenceville School of New York. Harry O. Gillet is a Principal of the University Elementary School, University of Chicago, and Thomas J. Durell was the Superintendent of Schools, Cape May County, New Jersey.

These men were assisted by Miss Blair who is head of the department of mathematics in the Horace Mann School and also an instructor in Teacher's College, Columbia University.

Up to this time there had been three methods of arrangement of subject matter in arithmetic, the topical, the spiral, and a combination of these two methods. The topical method was the original method followed in text books. By this method each topic in arithmetic is dealt with in its entirety before another topic is begun.

To Colburn the processes of arithmetic meant "principles" and the application of arithmetic as "subjects" or a field for the exercise of these principles so that denominate numbers, mensuration, percentage, interest, etc., are not taken as the basis for separate chapters or even distinct topics. For he believed that the child should have a knowledge of the principles, as the problems in his text are grouped about the principles therefore few subjects would require a special rule.

In the spiral method each topic is considered at first in its simplest form. By returning again and again to each topic, but in a more extremeand elaborate manner or with a higher treatment each time, the subject would be completed. Neither plan has proved entirely successful when used exclusively, the topical plan is the more logical.

A combination of the two methods has resulted in the prevalent book series of arithmetic in the United States, and at present is most satisfactory, such as the

New Day Series. By this method the strength of the topical plan is preserved within each year or half year, with a review of all topics at frequent intervals.

In the New Day Series, the Elementary used in the third and fourth grades, and the Intermediate for the fifth and sixth, we find the aim is to have the child vitally interested, therefore the first step is to provide good or adequate motivation for learners are not mere routine workers.

Each topic is introduced by a question or a challenge instead of by a rule, for understanding is what we need, not memorization of facts or rules. Obsolete subject matter is discarded since the need which it satisfied no longer exists and the problems are drawn from a wide range of human activities, and from the child's own life.

Thorndike, in his book, "The Psychology of Arithmetic" says, "Problems should be solved in the school to the end that pupils may solve the problems which life offers. Much thought and ingenuity should in the future be expended in eliminating problems whose solutions do not improve the real function to be improved by applied arithmetic, or improves it at too great cost, and in devising problems which prepare directly for life's demands and still can fit into a curriculum that can be administered by one teacher in charge of thirty or forty pupils, under the limitations of school life."

The modern way is to provide experiences which will grow together in an orderly rational system. Efficiency requires that problems should be firmly connected with the situations where they are needed.

The texts are $7\frac{1}{2}$ inches by $5\frac{1}{2}$ inches. Following the titles of the books are the copyrights, then the preface, contents, subject matter, pages of tables, and the index.

The problems in the Elementary book deal with every day subject matter as airplanes, automobiles, the radio, stamps, and the like, and the book is well adapted to the child in its illustrations and applications covering 33 pages. Some of the pictures are in colors black and white or various tones of orange and brown, picturing a supply store, furniture for a playhouse, children at a blackboard, and graphs, while eight pages are given to tables, five are in the back of the book, including tables of addition, multiplication, subtraction, division and measure which are for reference work. The other tables are liquid and dry measures, length, time, weight, days of the week and the months, and a table of United States money.

There are 149 problems solved, or eight per cent of the total number, and no answers given to the problems that the child is expected to do.

Some of the problems are reading and thinking ones, as:

1. When school begins, 31 children were in their seats. Then 4 children came in late. After recess 24 children from another room want to come to our room to sing with us. How many children will there be in our room then?

2. Dorothy has 30 cents to spend. Can she buy 3 sandwiches for 5 cents each, a glass of milk for 6 cents and ice cream for 8 cents?

3. Following the picture of "A Bean Bag Game" it says:

   The children in this picture are playing bean bag. One day they played in school, Fred, Alice, Helen, Henry, and Dorothy were on Team A. Fred threw the bean bag into the ring marked 8. His score was 8. Alice threw the bean bag into the ring marked 5. What was her score? Helen's bean bag did not land in any ring and her throw counted 0. Henry's score was 7. Dorothy's score was 5. What was the score for Team A? Here are the scores for four teams. Which team won?

Team	A.	B.	C.	D.
	8	0	9	7
	5	6	7	6
	0	5	0	9
	7	0	8	5
	5	8	6	0

In the New Day Arithmetic, Intermediate book, the problems deal with the same every day subject matter as in the Elementary book, giving purpose and reality of background for the pupil easily recognizes each problem as an actual life situation. Reading through this modern text you will be confronted with an array of measures, followed by an appropriate list of challenging questions as follows:

Think of something in your house that has not been measured. Think of ten things mother has to

measure. Who has to measure more carefully, the dry goods man or the maker of an automobile engine?

These are followed by problems similar to the following:

1. Sam picked 6 pecks of peas which he sold for 15¢ a quart. How much did he receive?

2. Donald weighs 78½ pounds. He should weigh 80 pounds. He is pounds underweight.

3. One Saturday Nora helped her mother from 10 A.M. until 11.30 A.M. How long did she work?

4. Pencils are packed ½ gross in a box. How many boxes shall we order if we want 720 pencils?

5. Robert can run 50 yards in 10 seconds. How man feet is that per second?

6. Find the cost of cleaning a rug 9 feet wide and 15 feet long at 4¢ a square foot.

7. The Field family uses 2 quarts of milk a day. How many quarts would this be for the month of June?

8. Draw a figure to show a screen door 3 feet by 7 feet.

The interests, instincts, capacities and present and future needs of the child are the underlying principles involved in these problems while pupil self activity is emphasized.

The subject matter is enriched through the introduction of new topics which help in teaching the child the intelligent use of money, such as personal cash accounts, budgets, saleslips and bills, and other matter as reading scale drawings, reading and drawing graphs.

This text has only 1.3 pages of tables which are for

reference use only, liquid and dry measures, lengths, surface, weight, time and volume, while there are 22½ pages of illustrations. The latter advocates the teaching of number relations by means of visualization through the use of pictures which eliminates abstract number work, such pictures as of reading number pictures or graphs, or using per cents in a sale of sweaters in a store.

There are 90 problems solved, or 6% of the total number of problems, while there are no answers given to the other problems.

Some of the interesting problems are grouped under this subject, "Cost of a Month's Schooling." John wanted to find out how much it cost the city to keep him in school. The superintendent gave him the following facts:

1. For the 32 children in his grade, the city spent $2.98 a month for paper. What was John's share?

2. Each pupil used 2 pencils a month. These pencils cost 24¢ a dozen. What did John's pencils cost a month?

3. During the school year, the following supplies were used by the 32 pupils: chalk costing $3.90, ink costing $6.00, pens costing $7.22, erasors costing $0.75, drawing supplies costing $20.65, other supplies costing $23.88. What was John's share of this expense for the past year?

Such problems ought to help pupils to consider their responsibility for proper use of school supplies and give better understanding of the need of gratitude, and aid children in learning to make decisions and weigh values. Thus the authors recognize the value of social utility as a basis for the selection of subject matter in arith-

metic, and the importance of keeping meaning back of practice.

In summing up these six arithmetic text books, one notes that the various topics as annuities, barter, fellowship, alligation, duodecimals, carpeting, painting, plastering, exchange, tare and trett, square and cubic measures, and certain tables of denominate numbers have been omitted, while permutations and combinations, position, roots, infinite series, arithmetical and geometrical progressions have been transferred to more advanced courses in mathematics.

Most of the problems in the earlier texts were unreal or artificial, and today we turn toward business, industry, and the home for real life problems in texts where there are whole sets of social relations involved instead of as in the older books emphasis was chiefly on the computational function of arithmetic. The puzzle type of problem is entirely omitted since it does not arise in the affairs of everyday life. It is true that such problems are all good fun as recreational problems for they have the same value in arithmetic that recreation has in any other field of life. But in 1808, this type such as found in Pike's Complete Arithmetick, a fellow said, "when he counted his nuts two by two, three by three, four by four, five by five, and six by six, there was still an odd one, but when he told them seven by seven they came out even. How many

had he?" was used as something that had to be mastered, where we would now use it as a quickener of wit, for arithmetic in 1808 was taught for mental discipline, the text book was the ideal with all its rules to be learned verbatum and used by the deductive method. The chief work of the teacher was to set sums, state rules and pass on the correctness of the pupil's work.

In 1828 Colburn revolutionized the organization of arithmetic texts. Rules were omitted and emphasis was put upon the mental processes. He believed that a child, when he knows that he is not to be told, will learn to depend upon himself and when he once contracts the habit of understanding what he does, he will not easily be prevailed on to do anything which he does not understand. Propaganda flourishes among people who have not been trained to think so that there is a great opportunity in arithmetic for engendering in the minds of our youth a most necessary ideal, that of understanding a complex situation before reacting to it. He also believed in recitation, for it was an excellent exercise for the scholar for forming the habit of expressing his ideas properly and readily, and he recognized the value of teaching pupils to study. His whole aim was to see and develop the child's point of view.

1868 was a stagnant period for arithmetic as there was a relapse to the old logical deductive order of 1800.

In 1908 the child was again the teacher's concern. There were endeavors to work out plans for securing incentives for the mental activity of the child. Interest was conceived as a motive, and emphasis was upon making arithmetic interesting. The trend was from agricultural to the commercial and industrial phase.

In 1930, the child is considered first, the subject matter second, and endeavor is made to have all the problems deal with interesting familiar situations within the range of the child's experience and which will increase his information, and develop his judgment.

CHAPTER VIII

COMPARISON TABLES

TABLE LXI

Comparison Table of Subject Matter

Subject Matter	Frequencies					
	Pike	Col-burn	Green-leaf	Hamil-ton	New Day Element-ary	New Day Inter-mediate
Animals	12	32	21	18	17	7
Books	0	4	6	11	24	12
Cloth	39	110	68	39	45	76
Clothing	3	9	13	23	32	48
Distance	9	24	40	46	27	102
Food	45	377	204	155	492	350
Liquors	19	132	9	0	0	0
Land	6	6	85	107	8	28
Lumber	12	24	51	83	7	24
Measures	26	150	204	17	117	12
Metals	27	53	29	27	0	0
Money	207	315	341	474	237	222
Numbers	109		13	5	43	2
People	19	13	11	23	72	34
Time	11	111	66	26	138	66
Tobacco	6	16	0	1	0	0
Weights	41	50	69	1	34	21
Miscellaneous	238	220	215	641	403	478
Grand Total	833	1,646	1,445	1,697	1,696	1,482

TABLE XLII

Comparison Table of Situations

	Amount	Buying	Buying and Selling	Measuring	Money - Not Buying or Selling	Miscellaneous	Judgment	Selling	Time	Totals No. of Problems
Pike	175	98	42	252	127	68		10	61	833
Colburn	469	513	100	370	127			21	46	1646
Greenleaf	342	314	112	457	149			34	37	1445
Hamilton	650	347	82	268	196		57	50	47	1697
New Day Series										
Elementary	513	536	9	175	139		225	81	18	1696
Intermediate	502	347	60	156	191		117	74	35	1482

TABLE LXIII

Comparison Table
of
Largest Number of Places Used
in One Problem

	1	2	3	4	5	6	7	8	9	10	11	12	13	19
Pike	61	251	210	123	52	19	6	9	1	2	1	2		1
Colburn	268	678	327	198	113	35	12	3	3					
Greenleaf	110	497	344	278	127	51	19	12	4			1	1	
Hamilton	80	525	491	382	104	29	14	3	5					
New Day Series														
Elementary	407	813	465	73	9									
Intermediate	218	632	374	195	32	4	1							

TABLE LXIV

Comparison Table of Decimals

Number of Places in the Decimals Used in Problems in Different Texts

	1	2	3	4	5	6	7	8	9	Total
Pike	16	128	43	15	5	1	0	0	1	209
Colburn	10	327	46	5	1					389
Greenleaf	5	553	27	2	1	3				591
Hamilton	55	576	31	2						664
New Day Series Elementary		834								834
Intermediate	116	594	2	1						713

TABLE LXV

Comparison Table of Fractions

How the Fractions Rank in the Different Texts[1]

	1	2	3	4	5	Number of fractions used in problems
Pike	1/2	1/4	3/4 & 1/3	2/3	3/8	238
Colburn	1/2	3/4	3/5	1/4	1/3	606
Greenleaf	1/2	3/4	1/4	1/3	2/3	410
Hamilton	1/2	3/4	1/3	2/3	3/5	674
New Day Series						
Elementary	1/2	1/4	3/4	1/3	1/6	420
Intermediate	1/2	3/4	1/4	1/3	2/3	458

1. This table is made up from the frequency table of the fractions used in each text book and shows which fraction is used the largest number of times, then the next largest, and so on in each text.

TABLE LXVI

Table of Comparison of Books

Arithmetic Text	Illustrations Number of Pages	Tables Number of Pages	Texts Number of Examples	Texts Number of Problems
Pike	6.53	34.26	681	738
Colburn	.14	10.57	666	1,646
Greenleaf	1.67	17.46	1,017	1,445
Hamilton	8.42	7.01	3,237	1,697
New Day Series				
Elementary	33.2	8.11	6,301	1,696
Intermediate	22.5	1.37	4,440	1,482

Table LXVII

Comparison Table of Per Cents

Texts	Problems solved	Answers given	Per cent of problems for pupil to do independently
1808	24.0	65.0	11.0
1828	8.4	0.7	90.9
1868	10.8	80.2	9.0
1908	12.1	0	87.9
1930	8.7	0	91.3
1930	6.0	0	94.0

SUMMARY

From the preceding tables it may be seen that the largest number of places used in any problem in Pike's text is 19 figures. Greenleaf comes next with 13, and Hamilton and Colburn use a maximum of 9, while the New Day Elementary has 5, and the Intermediate 7 place figures.

In Pike's Arithmetic text, the 1808 edition, the decimal places used in the problems are from 1 to 9, in Colburn's 1 to 5, in Greenleaf's 1 to 6, in Hamilton's 1 to 4, in the New Day Series the Elementary text uses 2 places only and the Intermediate 1 to 4. All of these texts used the two place decimals the most. The New Day Elementary text has more problems with decimals, chiefly dollars and cents, while Pike has the least.

In the comparison of fractions it is noted that $\frac{1}{2}$ is used the greatest number of times in the problems in each book, while $\frac{3}{4}$ and $\frac{1}{4}$ came second and the third place is between $\frac{3}{4}$, $\frac{1}{4}$, 1/3, and 3/5, while the fourth place is between 2/3, 1/4, 1/3, and 2/3, and the fifth place is given either to 3/8, 1/3, 3/5, 2/3, and 1/16. It is an interesting fact to note that Pike in his denominators seems to follow in order the number 2 to 20, then 26, 27, 31, 32, 120, 246, 313, 365, 1625, and 2800, while Colburn has a great

[illegible]

variety up to 20,000,000 for a denominator. Greenleaf uses for denominators the numbers consecutively from 2 through 20, then used in one problem only the following denominators - 25, 32, 40, 72, 75, 101, 140, 200, 1,320, 1,400, 1,728, 2,160, 8,640, 58,080, and 89,600. Hamilton is more conservative, using the denominators 2 through 21 and then 24, 30, and 1000.

In the New Day Series, the Elementary book, the fractions are very simple; the denominators are 2, 3, 4, 6, 8, and 10, while the Intermediate book has the same denominators with these additions, 12, 15, 16, 20, and one problem has a denominator of a hundred, so that the tendency today from these books would seem to be to use fractions that have a place in every day life and not ones for the sake of figuring, thereby saving wasteful methods of computations to get results.

There are less processes used and a less number of processes combined in one problem, for Pike shows 41 different processes and combinations while the New Day Intermediate has only 13. This may be accounted for largely by the omission of the compound processes and of evolution.

From the comparison table of situations one notes the fact that Hamilton's arithmetic has the most problems for finding amounts and Pike has the least. In the buying situations the New Day Arithmetic the Elementary

has 536 problems, and Greenleaf's has 314; for buying and selling Greenleaf has 112 problems and the New Day Elementary has the least with 9. In measuring Greenleaf has 457 problems and the Intermediate has the least, 156; for money not buying or selling Hamilton and the Intermediate have the most while Pike and Colburn have the least.

Other comparisons are that Hamilton has the greatest diversity of subject matter, Pike the greatest number of tables, and the New Day Intermediate the least; Colburn has the least number of illustrations and the New Day Elementary, the most.

Problems dealing with definite situations for individual reasoning, such as to draw a figure, or measure your own room, or estimate the answer, or to make up a problem appear first in Hamilton's book, and the New Day Elementary has more of these situations than the Intermediate has.

Problems of selling situations increase steadily from 10 problems in Pike's text to 81 in the New Day Elementary, while time situations rank highest in Pike's, and lowest in the Elementary.

Of the various texts studied, Colburn has the most problems concerning animals, kinds of cloth, liquors, metals, tobacco, while Pike has the most problems concerning numbers. Hamilton leads in problems concerning land, lumber, and money; Greenleaf in measures and weights;

the New Day Series, the Elementary in books, food, people, and time; the Intermediate has more about clothing and distances.

Hamilton's text has more problems than any of the other five texts and with the New Day Series give no answers to any problems; that is, the child solves 100% while Pike leaves only 17% to be done independently, Colburn leaves 90%, and Greenleaf 9%.

CHAPTER IX

CONCLUSIONS

Conclusions

A. The subject matter of arithmetic has changed in some respects, if we are to judge by the six texts analyzed.

1. Figuring today is done in small quantities instead of in wholesale quantities.

2. The puzzle type of problem has been eliminated from some arithmetic texts.

3. Obsolete matter is discarded, since the specialization developed in the last hundred years has made it unnecessary for the average individual to do the specialized figuring such as tare and tret, painting, papering, square root, and cube root. Therefore much that was in the early arithmetics has now become unnecessary. The knowledge of tables for reducing currency gradually unneeded.

4. The subject matter has changed with the changing times as there were 132 problems concerning liquors in "Colburn's Sequel" and none in "Hamilton's" in 1908, or the "New Day Series" in 1930; problems dealing with automobiles in 1908 and now in 1930 problems dealing with airplanes.

B. The situation in problems are more simple.

1. The majority of the problems in all the texts studied have not over two processes involved in one problem although some have four.

2. The situations demand the development of the child's power to comprehend and judge the conditions of the problem so as to choose the processes needed instead of learning a set rule to arbitrarily followed. These problems which develop the child's judgment are more common than problems of simple computation.

3. There is no solving of isolated problems. Now, instead of a multiplicity of rules with little practice under each rule, there are a large number of situations involving the four fundamental processes which are thought provoking and develop the power of automatic responses to number situations.

C. The numbers used in the problems have decreased in size.

1. The numbers used are smaller due to the difference in the emphasis in teaching arithmetic from the mental discipline idea to the real numbers met in everyday life. In the texts of the early nineteenth century, numbers from six to nineteen places are used, while in the recent texts one to five places are found.

2. The range of decimals changes from one to nine in Pike's Arithmetick to one to four places in the New Day Arithmetic, Intermediate Book, with the majority of decimals in each text of two places, which is due to the use of decimals in our money system.

3. The five most commonly used fractions in all the texts are 1/2. 1/3, 2/3, 1/4, and 3/5. They have taken the place of those with denominators in large numbers, even to eight places as in one of the texts.

4. Work in denominate numbers is simplified, for children do not need these. Adults learn measures today incidentally in connection with the handling, purchase, and sale of commodities fixed by trade practice.

D. Arithmetic text books are different.

1. The improvement in the art of book making has made arithmetics more easily read and more attractive with their greater number of illustrations.

2. The 1930 text books studied have the modern emphasis on giving pupils facility and ease in handling real numbers in problems common to everyday life, and the problems within the comprehension of the child.

3. The problems are addressed to the pupil and deal with his immediate surroundings and then progress to situations evolving from his immediate surroundings.

E. The good results from these improvements in arithmetic texts are very marked.

1. The child's naturally logical habit of mind is better developed by these problems dealing with phenomena within his own experience.

2. The pupil activity and participation in the rich and varied number experiences relating to school and home life have increased the child's ability to enjoy and secure satisfaction in mastering this formerly abstruse subject.

3. Modern youth need not have the old attitude toward arithmetic, for arithmetic has been robbed of most of its former terrors.

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